UNITED ARAB REPUBLIC
SYRIAN REGION
ECONOMIC DEVELOPMENT ORGANIZATION

Economic development organisation (U.A.R.)

Report
on
Economic Development Plan
1958 - 1967 [Syrian region]

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N/ B.

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Translated by RAGHEB ABDOU
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August 4, 1959

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Preface

These are preliminary studies which have dealt with the problem of economic development in the Syrian Region of the United Arab Republic and the Development Program for the next ten years 1958-67 which has been approved by the President of the Republic on September 1st, 1958.

The object for publishing these preliminary studies is to get the public acquainted with the development projects which shall be put into execution in the next ten years and which will increase the national revenue and elevate the social and economic levels in the Syrian Region.

Although these studies, which have been undertaken by the various Provinces of the Region, have discussed most of the problems connected with the economic developments of the Region, are considered as only preliminary studies for further minute studies, because matters of economic developments and studies of projects from technical and economic points of view cannot be accomplished in such a short time which had been covered in the preparation of these studies. This is in addition to the short number of staff in the technical apparatus when compared with the requirements of these ample studies for technicians and staff.

We hope that these studies, which render valuable services to the public and private organizations and especially to the Ministry of Planning which will take immediate steps for laying down an inclusive development plan for the Syrian Region and a full Development Program for both the public and private sectors, will enable the Syrian Region, for the first time in history, to pursue a plain development plan which will bring happiness and prosperity to our compatriots in the United Arab Republic.

Nour Eddeen Kahale
President
Economic Development Organization

SECTION A

ECONOMIC DEVELOPMENT AND AMOUNT OF ECONOMIC RESOURCES IN THE SYRIAN TERRITORY

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ECONOMIC DEVELOPMENT AND AMOUNT OF ECONOMIC RESOURCES IN THE SYRIAN TERRITORY

Chapter I

Economic Development in the Syrian Region

1. Study of the problem of the economic development in the Syrian Region necessitates a general review of the theoretical principles and the practical solutions which aims at the treatment of the economic problem as a permanent problem and to specify the fundamental principles on which the policy for planning the national economy shall be based.

It is rather difficult to recommend an economic policy to be adopted unless carefully studied and put in the fundamental principles frame which is recognized in the science of economy.

2. Economic Developments Principles

One of the first preliminary principles worthy of mention is the principle for regulating the relationship between the degree of economic development and the rate of capital funds. In order to advance the economic developments progressively, an adequate proportion of the national revenue should be assigned for increase of capital funds. Wherever this proportion of the national revenue is constantly increased the levels of revenue and exploitation are comparatively higher and consequently the national economy will flourish.

The realization of increasing the rate of the capital is connected with several factors, material which can be estimated by calculations, and non-material which could be recognized by various effects. The increase of the rates of the capital in respect to national revenue is not a proof for economic developments. The realization of economic developments cannot be reacted if the rate of increase of population exceeds the proportionate rate of increase in national revenue resulting from increase in the rate of the capital.

In other words if the individual income remains unchanged inspite of increased national revenue, the objective for increasing the national revenue cannot be realized. This is the main reason which led economists to differentiate between advanced and unadvanced nations on the basis of this marked difference in the average income of individuals, as the fundamental phenomena in non-advanced countries is the low level of livelihood whereas in advanced countries the average rate per individual income is sufficiently high to provide happy and comfortable life to the majority of the population.

There is another factor of paramount importance relative to establishing capitals which refers to the relation between increases in capitals and those of the national revenue. The relation is termed by economists as rate of productive capitals. This rate varies according to the economic position in non-advanced countries. In countries sufficiently provided with tools and equipment and abundant means of communications, the rates of productive capitals are much higher than those in countries not sufficiently provided with tools and equipment. The national revenue tends to increase when the rates of capitals invested in building habitations are much lower than those invested in industry, agriculture and other productive sectors.

In countries where wheat production is low, the rate of productive capital may be high as it is possible to elevate the level of wheat production by effecting simple improvements in means of agricultural production.

It is generally observed in advanced countries that in order to realize increase in the national revenue for a rate of a mathematical unit 3 or 3½, new units of the capital should be invested.

3. We have explained in the preceding article that realization of increase in the total capital depends on various factors, material and non-material. These factors are not similar in countries and they constitute the rate of increase in the capital which could be realized.

The monetary factors which can be calculated mathematically can be limited in two factors, viz: the rate of national savings and the uninvested volume of human and natural resources which can be utilized in new investments. The speed of economic development depends on the rate of the national savings level assigned for productive investments. This rate, in turn, is generally bounded by the national income level. The low revenue gives a low rate of savings and income and vice versa. The human and natural non-invested resources constitute the main source of economic investments.

With regard to human and natural resources not being exploited, these constitute a fundamental supporter of economic investments.

It is to be observed that unadvanced countries are characterized by having considerable amount of unemployed manpower or employed in a defective way in addition to buried wealth which is not explored. Had this hidden wealth been explored, the rate of productive capital would have speedy paces to advancement, without complaining against the economic resources employed in the sector of consumer production and transitting these to capital production.

In other words, we can keep the level of livelihood for consumers at its present level should we depend on the exploitation of idle resources and unemployed manpower.

We have previously explained that non-material factors exist which have various effects on productive capital.

These factors are attributable to political, educational, cultural and religious available in the Region, the political status either stabilized or otherwise, the family unity, amount of culture, general mentality, the desire for religious hints and the intent of people to work or to keep idle and their appreciation for savings and all these factors play the greatest part in promoting or lowering the level of the evolution of the society and accepting the substitution of the defective methods by the introduction of modern lines which will help in stabilizing the basis of economic development. These factors may have stronger effects on economic development than those caused by deficient productive capitals.

One of the most important and serious factors relates to the procedure taken by the Government in laying down legislations or undertaking measures under the existing organization. This interference is not restricted to economic matters and undertaking investment transactions but it is extended to effects caused by the absence of the necessary legislations for regulating the economic life and the relationship amongst members of the society and removing all obstacles in the way of the public to practice their activities in an easy manner.

The duty of the Government, if properly understood, is to create an encouraging atmosphere for members of the society who wish to participate in the economic field. Maintenance of the law and discipline, safety of the country, controlling issue of currency and stabilizing its value, ensuring minimum levels for hygienic and training services, all these represent examples of the serious duty of the Government.

Principles of Economic Planning

5. The idea of economic planning is based on the necessity of practical interference of the Government in economic life for organizing the various economic transactions and participating in stabilizing national production and increasing national revenue. The economic planning can therefore be considered as a collection of procedures adopted by the Government in the national economy for attaining specific economic objectives and ensuring economic policy. The economic planning is different in all countries according to the nature of the economic policy adopted and the economic objectives to be attained. In countries adopting the principle of free economy the planning methods tend to establish a sort of economic balance for avoiding economic crisis emanating from the recurrence of economic happenings due to idleness or excessive products. In communist countries, the economic planning aims at exploiting all productive factors for the national income. This is carried under the control and responsibility of the Government.

In non-advanced countries the procedures of economic planning are employed for elevating the level of national economy and expansion of products by encouraging individual productive availabilities and the Government undertakes execution of economic projects which could not be undertaken by private individuals which come under the term of public utilities, such as roads, railways, irrigation, dams, etc., without which the national economy will run very slowly to development.

6. If methods of economic planning are different, they unite in one phenomenon which lies in the employment of the country for all available means to realize the economic objectives of which she plans. These methods lie in the legislative, financial and monetary authorities and other economic authorities. By the way of exercising all these methods in accordance with the outlined plans, the country will realize the economic developments aimed at and in consequence the national production will increase and the living standard will be elevated. It is exceedingly important that all the various authorities of the country should act under general understanding to prevent the occurence of disputes that will hinder the way of the national economies to reach their objectives.

7. The economic objectives lie in the following principles:

(a) The country will establish an economic budget to confront inflation aspects connected with the national economy or the world fluctuations in prices.

(b) The country should spare every effort to prepare all possible material and human resources to meet the requirement of consumption.

(c) The Government by means of the legislative power and the taxes arrangement must avoid any differences in distribution of national revenue and must establish a minimum level for livelihood. T-his will realize peace and mental stabilization amongst people in performing their duties in a satisfactory manner.

The Production Problem in Syria

8. Since the liberation of Syria from the Turkish reign up to the blessed unity with the Egyptian Territory, Syria was exposed to major historical events, especially in the economic field. In spite of these grave events of which Syria has tremendously suffered, the Syrian citizens have always struggled to come out of these hardships with hoisted dignities, although, in some instances, Syria received serious wounds in the economic field.

9. During the French colonization, the main object of France was to put the economies of Syria under the control and a part of the French economy. Resources for insignificant products were only granted. Industrialization did not attract the attention of the French authorities, neither did they execute any important economic developments. The Syrian economy was idle and completely neglected during the French domination.

10. After liberation from the French rule in 1945, a heavy burden was put on the shoulders of Syria in the way of organizing the economies of the country and outlining effective economic policy. The first step was directed at liquidating all obligations with France and freeing the Syrian currency from the French link. This was accomplished by agreements made in 1949, whereby the concession granted to a French company for the issue of Syrian currency was also suppressed. Currency is at present issued by the Central Bank of Syria which started business in 1956.

Owing to the contradictory policy of Syria and Lebanon for exports, the mutual agreement which was in force since 1950 for the custom unit was nullified and Syria is now exercising a self policy which is in conformity with the commercial requirements.

11. In the financial field, the Government effected certain important alterations in the taxation arrangements and adopted the principles of progressive rates in direct taxes. In the meantime most of the old taxes imposed during the Turkish and French rules were suppressed. The most important progressive taxes were those relating to income, assets, agricultural products and house rents. With the exception of agricultural products, all new taxes were distinguished of their progressive rates. As to old taxes which the Government had cancelled, they were connected with tithes, land taxes and occupation of roads.

12. One of the important measures taken by the Government was directed towards the protection and organization of national industry. Custom dues were raised on most of foreign imports, taxes on machinery and tools employed in industry or agriculture were either reduced or cancelled. For the purpose of encouraging new industries certain exemptions from dues were granted for varying periods. The Government did not help the national industry in lessening taxes only, but loans were also granted by the Syria-Lebanon Bank in 1949 on the guarantee of the Government.

13. Endeavors of the Government for stabilizing development of the national economy were not confined to legislations but were extended to the execution of a number of basic development projects and preparing a National Defence Program for facing the new hazard created by the foreign colonization by the foundation of Israel to annoy the Arab nations. Of the preliminary steps taken by the Government in the economic development field were those connected with the differentiation between normal administrative expenditures and constructional expenses. The latter were characterized by their long duration, mostly exceeding the financial year. The Government intended to get rid of the traditional policy of yearly budgets which delays the development of constructional projects which carry forward the pending credits to reserve accounts.

The Budget of 1945 embodied a stipulation allowing transmission of unused credits in 1944 budget assigned for constructional projects, under a special account in the Central Treasury in the name of "Constructional Program Account". Out of this account the non-executed constructional projects are to be financed. The same procedure was also applied in the budget for 1946 and 1947.

As the financial arrangements in general and the taxation arrangement in particular could not afford for the financing of development projects of which the national economy was in pressing need, the Government devised a new arrangement in support of the execution of these projects. This arrangement lies in accomplishing the projects on separate basis and assigning credits for each individual project either from the existing money in the Treasury or from the issue of currency organization. The Government was able to expend in the course of 1945-1955 L.S.427 million as indicated in the following table:

Name of Project	Treasury Money L.S.	Currency Organization L.S.	Total L.S.
Telephone & Broadcasting	36,822,000		36,822,000
Irrigation	12,583,900		12,583,900
Municipalities	4,028,000	19,364,000	23,392,000
Provisions		50,000,000	50,000,000
Cereal Office		6,000,000	6,000,000
Deficits in former supply	5,207,729		5,207,729
Railways	15,558,201	3,000,000	18,558,201
Agricultural Expenses	29,902,083	19,398,377	49,300,460
Latakia Port	18,753,000		18,753,000
Aleppo Water	5,625,265	20,000,000	25,625,265
Electricity	11,135,000	10,000,000	21,135,000
Forests	6,617,335		6,617,335
Depots of Inflamables	774,000		774,000
Guaranteed Companies		16,927,000	16,927,000
Yarmouk Project	3,011		3,011
Liberation of Jezirah	1,932,237		1,932,237
Nationalization of school books	500,000		500,000
International Bank	1,550,000		1,550,000
Central Bank	2,500,000		2,500,000
Construction of Republic Palace	1,428		1,428
Construction of Embassies abroad	315,000		315,000
Roads and Constructions	110,755		110,755
Wells	140,896		140,896
Exceptional balancing	50,000,000	40,000,000	90,000,000
National Defence 1951		34,000,000	34,000,000
National Defence 1955	5,207,802		5,207,802
Total	209,267,642	218,689,377	427,957,019

14. The National Government observed the necessity for conducting detailed studies concerning the national economy and for this reason agreed with Sir Alexander Gibb & Co. early in 1946 to study the economic evolution for Syria and all possibilities for investing the natural resources in particular, with special attention to thermal and hydraulic powers, irrigation and all possible utilization of water, communications, industrial evolution and public constructions. Sir Alexander Gibb & Co. laid down a detailed report embodying all recommendations and priority of suggested projects.

The Government has also called a commission of experts early in 1954 representing the International Bank for Reconstruction and Development to study all the economic possibilities for Syria for the object of preparing a long term development program for increasing the productive resources and elevating the standard of living.

One of the fundamental proposals was that referring to the appointment of a specific rate of money to be expended on public projects and the preference of investing this money in the various sectors of economy. It was also recommended that special attention be directed to the economic, financial and administrative policy in favor of the development program.

On the basis of these recommendations, the International Commission representing the International Bank for Reconstruction and Development drew up a government program for the development of the economic resources of the country during five years and explained the methods of organizing and financing.

15. In 1955 the Government could successfully issue important legislation dealing with economy on the whole and aiming at a stabilized economic policy for regulating all economic possibilities and ready resources for the economic development, increase of products and improvement of the level of living. Legislation also dealt with regulating the economic requirements towards the financial power of the country and putting an end to private projects which were put into execution before considering the financial and technical availabilities, and disregarding timing factor and the degree of economic priority.

After the experience of ten years in the field of constructional projects, it was found that the main factor for executing projects is the volume of financial availabilities which the Government could afford. As the Government either resort to the Treasury or to the organization for the issue of currency and as it was proved that this arrangement is defective as a basic means for financing projects, it was decided to unify the debts and obligations of the country and put them under the control of a sole administration. In the meantime, it was found advantageous to benefit of the savings of private individuals in financing projects and encouraging them to invest their money in Government bonds. On this basis the Government issued Law No. 89 of July 13, 1953 outlining the policy for Government loans. This law included the institution of a municipal box having full power for reforming Syrian services and organizing loans, either of short or of long terms within the limits of the municipal financial needs.

The next step taken by the Government was the institution of the High Economic Council stipulated in Art. 152 of 1950 Constitution. Law No. 115 of August 29, 1955 supported the institution of this High Economic Council which proved that the Government is highly interested in the national economy and appreciates the grave tasks thrown on its shoulders. If the economy of the country, prior to 1955, was not running satisfactorily, the institution of this High Council is a strong proof that all economic projects will be undertaken under modern lines and therefore the economic developments of the country shall be realized.

In order to avoid the mistakes of the past and for the sake of adopting practical and sound decisions in dealing with economic matters, Law No. 115 was keen in separating the business of preparing the economic policy apart from the duty of execution and pursuance. For this reason the law stipulated that the High Economic Council shall undertake the outlining of economic planning. Other works lying in preparing the budgets and execution of development projects were charged to another authority under the supervision of the High Economic Council. In fact Law No. 115 based this arrangement on logic lives as no longer the traditional Government proceedings were being followed which were delaying the execution of the economic development due to financial and legislative difficulties. Eventually the law created the good spirit of consolidated and unified business.

This step was followed by another step of paramount importance for favor of the economic life of the country. This step consisted of laying down an exceptional budget for execution in the course of 7 years, together with an inclusive program consisting of a lot of social constructional and investment projects. This budget was approved by Law No. 115 of August 29, 1955, which was a novelty in Syrian history that the idea of planning and programs is introduced for the benefit of the economic developments. It was intended that the Economic Development Organization would take charge for the execution of this exceptional budget, had it not been for the delay in instituting this establishment and in the formation of the High Economic Council up till the middle of 1957, a fact which has led to other administrations of the country to undertake the execution of this exceptional budget, specially projects which had been started before the preparation of this exceptional budget.

Due to hard circumstances many financial difficulties blocked the way for executing these projects as the Treasury was unable to grant new funds for this purpose or even allow to pass a part of the expenses or issued bonds. The cause of this procedure was due to the following factors:

1. The credits inserted in the ordinary budget for the exceptional budget could not be granted owing to the partial stoppage of taxes in the course of 1956-1958 due to the cessation of the Iraqi petroleum coming across the Syrian lands caused by the aggression on Egypt in the autumn of 1956.

2. Owing to the discovery of deficits in 1956 and 1957 budgets due to armament expenses for which no credits were inserted in the budgets. This led the Ministry of Treasury to meet this deficit out of reserves which would have served as adequate resources for financing the projects of the exceptional budget.

3. It was hoped that certain projects could have been financed through loans, the general debt case could not provide the loans from the internal market owing to insufficient deposits and shortage of savings and also the high rate of interest.

4. Finally the Government refused to have loans from the International Bank for Reconstruction and Development after the contract loans had been prepared. It is to be noted that the amount of the loan was inserted as a basic source of the transmissible sources in the exceptional budget.

16. Towards these financial difficulties and the specific nature of the transmissible sources for the exceptional budget due to their unstabilized quality, it was decided to revise the estimates of the exceptional budget in the light of facts and availabilities.

One of the most unsolvable problems for the non-advanced countries is the shortage of adequate funds for financing the big development projects, without which the national economy cannot evolve or advance.

As undeveloped economy causes low level of national revenue, governments are unable to absorb the necessary amounts from this revenue for financing these projects.

In order to get out of this difficulty most of the non-advanced countries adopt two ways for financing these projects, either by printing new stocks of currency through the Central Bank or through foreign loans. The former way is economically detrimental if used indiscreetly. The latter, although more secure, is also unsafe as it may expose the national sovereignty to the danger of degrading or may direct the national policy to a direction which is not in the interests of the Region. This has led Syria to be deliberate and cautious for not indulging in foreign loans. At the end of 1957, Syria could get economic and technical aids from Soviet Union, not restricted. The world political atmosphere helped in obtaining these aids on account of the wish of the Soviet Union to give a helping hand to neutral countries.

Luckily Syria could enjoy, for the first opportunity, an exceptional epoch where the development programs could be adequately accomplished. Although this subsidy, whatever great it was, it was not sufficient to all requirement and needs of the country. For this reason the Syrian Government tried to find some other exceptional financial resources without surpassing the financial power of the country. This was the main idea on which the economic development program for 1958-1968 was based and approved by the President of the Republic by Decree No. 133 of 1958.

A full record of the principles on which calculations of the financial resources was based for financing development programs, will be detailed which we hope to be true, well founded and could be attained, thus avoiding the difficulties experienced in the case of the former exceptional budget.

17. It should be noted that this development program is not final to satisfy the requirements of the country but it is in fact a preliminary moderate step as the inclusive development planning takes on its part the laying down of economic objectives of the whole national economy from the points of view of social, instructional or constructional whereas the objectives of the development program for the Syrian Region is only restricted to big development projects, the execution of which falls on the shoulders of the Government as most of them belong to public utilities in which the public is not interested. These big development projects are connected with irrigation, dams, roads, embankments and railways. The projects contained in the development program refer to tourism, summer resorts, vocational guidance and forests.

In fact the projects of the development program are of vital importance for the welfare of the country and had keen kept in abeyance for longer periods. They should be well attended to as they are fundamental basis on which other development projects will stand.

Chapter II

Estimation of Syrian Resources

1. In order to lay down a program or plan for a specified period for the economic development, a survey of the surplus resources has to be made with a view to decide as to amounts employed and others invested or state of each. This survey will serve as a base of a development plan, the object of which is to exploit idle resources so as to reach the objectives aimed at by the society.

2. We have undergone a survey of the surplus resources in Syria for the years precedent to 1958 for planning a development program for the next ten years. The following were estimated:

- (a) Natural resources such as water, land, electric energy, petroleum and metal wealth.
- (b) Human resources and manpower employed in the various economic sectors.
- (c) Savings and investment resources.
- (d) Financial resources in the Government sector.

3. The object of this survey was to discover all availabilities of the Syrian Territory in respect of the productive and investment power in order to design a development plan for the whole Syrian economy and preparing a development program for the succeeding ten years.

Estimation of Human Resources and Manpower

4. Up to now no definite number of the working hands in production can be determined for the ages varying from 15 to 60 years, because no census had been made to estimate this number. In view of the importance of this category of people in production processes, especially in designing a plan or a development program, we have devised a procedure to arrive at this figure.

It will be ascertained from statistics conducted in Egypt, Iraq and Palestine, that the percentage of this category to the total population varies from 51 percent to 55 percent.

As the condition of vitality and social state in these Arab Territories are nearly similar, we will propose that this rate in Syria is 55 percent of the total population. The population in Syria at the end of 1957 was estimated at about 4,144,285, the number of persons working in production is therefore 2,279,357.

This category is scattered in villages and cities, or those employed in agriculture and those working in other professions. The distribution is not counterbalanced as the number of persons in the agricultural sector is 1,589,105 whereas this number is only 690,250 in the other economic sectors constituting only 30 percent, while in the agricultural sector it reaches 70 percent. It is of interest to mention that some persons working in the agricultural sector are at the meantime working in the economic sector in addition to their original work.

We will attempt to explain in subsequent articles whether persons working in the agricultural sector or in other sectors are lower or higher than the existing requirement and also during the next ten years as measured with elements of other products which cooperate therewith in the fields of agricultural and animal production or any other fields of production.

5. In the field of agriculture, 1,589,105 producers, male and female, work exploiting an irrigated area of 583,133 hectars and a non-irrigated area of 4,366,959 hectars. It can be said that there is a marked surplus in the agricultural manpower due to the so called masked unemployment caused by the narrowness of cultivated lands or the smallness of the irrigated lands or non-employment of modern agricultural implements or any other social and economic factors.

6. A producer can exploit 0.4 hectar of irrigated land for summer plantation and 0.4 of the same land for winter plantation at one time, or an area of non-irrigated land varying from 5 to 50 hectars according to the amount of modern agricultural implements in his possession.

We have recommended this rate per individual on studies of productive means in the various zones of the Syrian cultivated lands. We discovered that the ordinary implements are those prevalent in planting irrigated lands, and in planting a small area of unwatered land. The big modern implements are employed in the remaining area of unwatered lands. A producer can exploit 4 dunums in summer and 4 dunums winter plantation by his ordinary implements or if he employs his ordinary tools and implements, he can exploit 5 hectars of unwatered land or 25-50 hectars if he employes his modern agricultural implements.

We also found that one-tenth of the watered and unwatered lands in any zone is densely cultivated (vegetables, fruits and gardens) and the balance of nine-tenths is planted summer or winter cultivation. We also found that six-tenths of the unwatered land is planted yearly in winter cultivation.

We have differentiated between the zones following doublefold turns and those adopting threefold turns. We have found that Deir El-Zor, Hasaka, Aleppo, Hama, are generally adopting doublefold turns, whereas Damascus, Homs, Deraa, Latakia, Swaida, are generally following the threefold turns.

If we now divide the watered and summer cultivated land in every governorate by 0.4 hectar, we will obtain the number of producers necessary for exploiting these areas. If we add to this figure, the number of producers required for exploiting one-tenth of the watered lands which is densely cultivated as vegetables and fruits, we could obtain the total number of producers required for exploiting watered lands in Syria without any fall in production. The following table is an indication:

Mohafazat	Watered[1] Area	Densely[1] Cultivated Area	Remaining[1] Watered Area	Agricultural Turn	Summer or[1] Winter Cultivated Area	Producers Required for Densely Cultivated Lands	Producers Required for Summer & Winter Cultivation	Total N°. Producers Exploiting Syria
Damascus	86,301	8,630	77,671	Threefold	25,890	21,575	64,726	86,301
Homs	43,555	4,355	39,200	"	13,067	10,888	32,667	43,555
Hama	65,650	6,565	59,085	Doublefold	29,543	16,413	73,856	90,269
Deraa	4,439	444	3,995	Threefold	1,332	1,110	3,329	4,439
Deir El-Zor	203,152	20,315	182,837	Doublefold	91,418	50,788	228,546	279,334
Haska	50,000	5,000	45,000	"	22,500	12,500	56,250	68,750
Aleppo	139,635	13,964	125,671	"	62,836	34,910	157,090	192,000
Latakia	14,941	1,494	13,447	Threefold	4,482	3,735	11,206	14,941
Swaida	200	20	180	"	60	50	150	200
Total	607,873	60,787	547,086		251,128	151,969	627,820	779,789

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1) Area in hectares.

N/ B.

If we divide the six-tenths of the unwatered land in each governorate on the consideration that one-tenth is planted summer cultivation and the five-tenths winter cultivation and the four-tenths are left for the rest, over the various rates in respect to prevailing agricultural positions in every governorate, we shall be able to obtain the number of producers required for the exploitation of unwatered lands, cultivated in 1957. The following table gives indication:

Governorate	Dry Area Hectars	6/10 of Dry Area Hectars	Hectars Exploited by person	Producers required for Dry Lands
Damascus	118,618	71,171	10	7,117
Homs	278,500	167,100	5	33,420
Hama	459,110	275,466	10	27,547
Deraa	388,666	233,200	5	46,640
Deir El-Zor	169,774	101,864	25	4,075
Hasaka	1,159,870	695,922	40	17,398
Aleppo	1,528,722	917,233	10	91,723
Latakia	179,319	107,591	5	21,518
Swaida	84,380	50,628	5	10,126
Total	4,366,959	2,620,175		259,594 1/

If we add the number of producers necessary for cultivating unwatered lands to the number required for cultivating watered lands, the total will represent the number required for cultivating all lands in Syria, either watered or unwatered, amounting to 1,038,353 producers.

As the number of producers employed in the agricultural sector at the present moment amounts to 1,589,106, there is therefore a surplus in this sector amounting to 550,753 producers, i.e., at the rate of 34 percent of the total manpower, as shown in the following table:

1/ Figures add to 259,564.

Surplus Producers in the Agricultural Sector
Up to end of 1957

Governorate	No. Employed in Agricultural Sector	No. Required for Exploiting Watered & Unwatered Lands	Surplus of Producers in Agriculture Sector	Rate of Surplus Producers in the Governorate	Rate of Surplus in the Governorate to total surplus
Damascus	235,663	93,418	142,245	60%	26%
Homs	143,594	76,975	66,619	46%	12%
Hama	116,178	117,816 3/	1,638 1/		
Deraa	85,534	51,079	34,455 1/	42%	6%
Deir El-Zor	171,882	283,409 4/	111,527 1/		11%
Hasaka	130,842	85,148	45,694		
Aleppo	417,964	283,723	134,241	32%	24%
Latakia	223,419	36,459	186,960	83%	33%
Swaida	64,030	10,326	53,704	84%	10%
	1,589,106	1,038,353 5/	550,753 2/		

1/ It appears that the average land specialized per producer in the whole territory is below the average actually exploited per person in the governorate.

2/ Should be 777,083.

3/ Should be 114,540.

4/ Should be 60,355.

5/ Should be 812,023.

7. This surplus of manpower in agricultural sectors will be distributed over the governorates, although it is apparent in certain governorates and not apparent in others.

In Latakia the rate of the agricultural surplus in comparison with the total manpower is 83 percent, at Swaida it reaches 84 percent, at Damascus 60 percent whereas it is low in Aleppo, being 32 percent.

If we consider the amount of surplus in manpower in each governorate in comparison of the total surplus in the Syrian Territory, the position will be different as the surplus in manpower is centralized in Latakia, Damascus and Aleppo where the rate is 33%, 26% and 24% respectively of the total surplus.

If we divide the Northern Territory into two divisions: north, consisting of Hama, Latakia, Aleppo, Hasaka and Deir El-Zor governorates, and south, consisting of Homs, Damascus, Deraa and Swaida governorates, we will find that the surplus in manpower is equally divided in these two divisions. This phenomenon is self explanatory as the projects for irrigation and communications to be executed in the Northern Territory would absorb this surplus in manpower, whereas these projects are fewer in the Southern Territory, which would entail the organization of an industrial program for absorbing this surplus in manpower, or preparing a program for habitations for sorting inhabitants as per requirements of employment in the two divisions.

8. In addition to the hidden surplus, the rate of which has been indicated and the number of producers who could be withdrawn from the agricultural sector for serving in new lands or in other economic sectors, there is also the seasonal leave which is of the same level of importance as the hidden surplus.

In the unwatered zones where there is winter cultivation of crops, the producers only work 50 days throughout the year and in lands having summer crops planted, not more than 100 days.

That is to say that ¾ of the producers' time, amounting to 1,500,000, is wasted without the least advantages. This is the reason why rural life is at a low level.

9. Evolution of population and producing persons in the agricultural sector 1957-1967.

We have discussed the problem of manpower in the agricultural sector according to its existing state at the end of 1957. It is essential to refer to this problem during the next 10 years in the course of which the Development Program shall be executed, in order to observe the evolution in our resources of manpower and making comparison with our needs thereto.

We have **assumed** that the rate of increase of population in the Syrian Territory is 2.5% yearly (*) and on this basis the population of Syria in 1967 will reach 5,305,028. If we also suppose that the persons employed in agriculture will increase through 1967 at the rate of 2.5 percent, their number will reach 3,098,526 as shown in the following two tables:

(*) On account of no accurate births and deaths statistics available in the Syrian Region for working this rate, we have depended in its estimation on a research made by the Statistical Directorate on a sampling basis and secondly on the rates of increases in the Southern Region, Iraq and Palestine.

Evolution in the Increase of Population in the Syrian Territory - 1957 - 67

Mohafazat	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967
Homs	403,080	413,157	423,486	434,073	444,925	456,048	467,449	479,135	491,113	503,391	515,975
Damascus	867,478	889,165	911,394	934,179	957,533	981,471	1,006,007	1,031,157	1,056,936	1,083,359	1,110,442
Hama	309,233	316,964	324,888	333,010	340,335	349,868	358,614	376,579	375,768	386,187	395,842
Deraa	162,516	166,579	170,743	175,012	179,387	183,872	188,469	193,181	198,011	202,961	208,034
Deir El-Zor	333,513	341,851	350,397	259,157	368,136	377,339	386,772	396,442	306,353	416,512	426,925
Haska	258,894	265,366	272,000	278,800	285,770	292,914	300,237	307,743	315,436	323,322	331,405
Aleppo	1,211,935	1,242,233	1,273,289	1,305,121	1,337,749	1,371,192	1,405,473	1,440,610	1,476,625	1,513,541	1,551,379
Latakia	476,217	488,123	500,326	512,834	525,655	538,796	552,266	566,073	580,225	594,731	609,602
Swaida	121,419	124,454	127,565	130,754	134,023	137,374	140,808	144,328	147,936	151,634	155,424
Total	4,144,285	4,247,892	4,354,088	4,462,940	4,574,513	4,688,874	4,806,095	4,926,248	5,049,403	5,175,638	5,305,028
				1/	2/			3/	4/		

1/ Figures add to : 4,362,940

2/ " " " 4,573,513

3/ " " " 4,935,248

4/ " " " 4,949,403

Evolution in the Increase of Population in the Agricultural Section - 1957 _ 1967

Mohafazat	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967
Damascus	428,478	439,190	450,170	461,424	472,690	484,784	496,903	509,325	522,058	535,109	548,487
Homs	261,080	267,607	274,297	281,154	288,183	295,387	302,772	310,341	318,099	326,052	334,203
Hama	211,233	216,514	221,927	227,475	233,162	238,991	244,966	25,091	257,368	263,802	270,397
Deraa	155,516	159,404	163,389	167,474	171,661	175,952	180,351	184,861	189,483	194,221	199,077
Deir El-Zor	312,513	320,326	328,334	336,542	344,995	353,579	369,418	371,478	380,765	390,484	400,041
Haska	237,894	243,842	249,938	256,186	262,591	269,156	275,885	282,782	289,851	297,097	304,524
Aleppo	759,935	778,933	798,406	818,366	838,825	859,795	881,290	903,322	925,905	949,053	972,779
Latakia	406,217	416,372	426,781	437,450	448,386	459,596	471,086	482,863	494,935	507,308	519,991
Swaida	116,419	119,329	122,312	125,371	128,505	131,718	135,011	138,386	141,846	145,392	149,027
Total	2,889,285	2,961,517	3,035,554	3,111,442	3,189,228	3,268,958	3,350,682	3,434,449	3,520,310	3,608,518	3,398,526
					1/		2/	3/			

1/ Figures add to : 3,188,988

2/ " " " 3,357,682

3/ " " " 3,208,449

N/ B.

The number of the producing population in the agricultural sector will rise from 1,589,106 at the end of 1957 to 2,034,089 at the end of 1967, with an increase of 445,083 agricultural producers.

10. Comparison of surplus manpower in the agricultural sector with our needs during 1957-1967.

The area of dry lands which could be cultivated reached its maximum extent at the end of 1957. The cause is due to the people having exploited all area. There is no prospect that this area shall be considerably increased in the course of 1957-67. The lands suitable for cultivation amounts to 2,560,717 hectars. These lands which have not been cultivated in the past, shall not at the present time be cultivated for the following reasons; the most important of which refers to scarcity of rain falls and secondly due to bad soil.

It can be said that increase of cultivated areas in the course of the next ten years shall be small if no huge irrigation projects are devised which are able to convert these unwatered areas and other areas suitable for cultivation, to become as watered lands.

This firm comparative rate in the cultivated areas tends to indicate that the number of producers required for exploiting these areas will remain unchangeable in view of the reasons already explained in the tables, their number being 1,038,353. As the number of producers in the agricultural sector amounts to 2,034,189 at the end of 1967, this means that there is a surplus in the agricultural manpower existing at the end of this period, reaching 995,836 producers. This apparent surplus is sufficient for the exploitation of an area of watered land amounting to 747,000 (1) hectars which constitute the greater part of lands which could be watered by the way of future irrigation projects incorporated in the Economic Development Program of this territory.

The surplus in producing manpower which we could determine on the basis that the production implements and methods of employment in the exploited lands shall maintain its existing state for the next 10 years. As this supposition is improbable owing to the employment of major implements and the adoption of modern lines in the near future as provided by the Cooperative Societies and the appearance of surplus manpower, the volume of surplus in producers will be greater than our estimate.

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(1) On the basis of 0.75 hectar per person.

Evolution in the Increase of Producers in the Agricultural Sector - 1957 - 1967

Mohafazat	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967
Damscus	235,663	241,554	247,593	253,783	260,128	266,631	273,297	280,129	287,132	294,310	301,668
Homs	143,594	147,184	150,863	154,635	158,500	162,463	166,525	170,688	174,954	179,329	183,812
Hama	116,178	119,083	122,060	125,112	128,239	131,445	134,731	138,100	141,552	145,091	148,718
Deraa	85,534	87,672	89,864	92,111	94,413	96,774	99,193	n101,673	104,216	106,822	109,492
Deir El-Zor	171,882	176,179	180,584	185,098	189,725	194,468	119,330	204,313	209,421	214,656	220,072
Haska	130,841	134,113	137,466	140,902	144,425	148,036	151,737	155,531	159,418	163,403	167,488
Aleppo	417,965	428,413	439,123	450,102	461,354	472,887	484,701	496,828	509,248	521,979	535,029
Latakia	223,419	229,005	234,730	240,597	246,612	252,778	259,097	265,575	272,214	279,019	285,995
Swaida	64,030	65,631	67,272	68,954	70,678	72,445	74,256	76,113	78,015	79,966	81,965
Total	1,589,106	1,628,834	1,669,555	1,711,294	1,754,074	1,797,927	1,842,875 1/	1,888,950	1,936,170	1,984,575	2,024,189 2/

1/ Figures add to : 1,762,867

2/ " " " 2,034,239

N/ B.

Surplus of Producing Persons in the Agricultural Sector - 1957 - 67

Mohafazat	Producers Required for Exploiting Watered & Unwatered Lands at end of 1957	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967
Damascus	93,418	142,245	148,136	154,175	160,365	166,710	173,213	179,879	186,711	193,714	200,892	208,250
Homs	76,975	66,619	70,209	73,888	77,660	81,525	85,488	89,550	93,713	97,979	102,354	106,837
Hama	117,816	1,638	1,267	4,244	7,296	10,423	13,629	16,915	20,284	23,736	27,275	30,902
Deraa	51,079	34,455	36,593	38,785	41,032	43,334	45,695	48,114	50,594	53,137	55,743	58,413
Deir El-Zor Haska	283,409 85,148	- 65,834	- 58,265	- 50,507	- 42,557	- 34,407	- 26,053	- 17,490	- 8,713	- 282	- 9,502	- 18,953
Aleppo	283,723	134,242	144,690	155,400	166,379	177,631	189,164	200,986	213,105	225,525	238,256	251,306
Latakia	36,459	186,960	192,546	198,271	204,138	210,153	216,319	222,638	229,116	235,755	242,560	249,536
Swaida	10,326	53,704	55,305	56,946	58,628	60,354	62,119	63,930	65,787	67,689	69,640	71,639
Total	1,038,353	550,753	590,481	631,202	672,941	715,721	759,574	804,522	850,597	897,817	946,222	995,836

J/ B.

11. Manpower in other economic sectors.

There are no available statistics for the manpower employed in the other economic sectors but owing to our desire to estimate all resources in the Northern Territory, this urged us to make an account of the working power in this sector so that we arrive at an approximate estimate and consequently deal with the methods of employment of this power in every sector.

The number of population in the other economic sectors amounts to 1,255,000, i.e., 3% of the total population of the Northern Territory.

But the number of persons who produce in these sectors does not exceed 385,825 producers, out of which 345,125 are men and 40,700 women. The reason for this low number in these sectors is due to the fact that the majority of women living in cities refuse to participate in production operations which is opposite to the case in the agricultural sector.

The productive power is immense in Aleppo and Damascus constituting 71 percent of the total producers, as indicated in the following table:

Number of Producing Persons in the Other Economic Sectors at the end of 1957

Governorate	Population in other Economic Sectors	Producing Persons in other Econ. Sect. 1/	Male Producers 2/	Female Producers	Total Producing Persons	Percent
Damascus	439,000	241,450	120,725	15,000	135,725	35%
Homs	142,000	78,100	39,050	4,000	43,050	11%
Hama	98,000	53,900	26,950	2,500	29,450	7.5%
Deraa	7,000	3,850	1,925	500	2,425	1%
Deir El-Zor	21,000	11,550	5,775	500	6,275	2%
Hasaka	21,000	11,550	5,775	500	6,275	2%
Aleppo	452,000	248,600	124,300	15,000	139,300	36%
Latakia	70,000	38,500	19,250	2,500	21,750	5%
Swaida	5,000	2,750	1,375	200	1,575	2.1%
Total	1,255,000	690,250	345,125 3/	40,700	385,825	55%

1/ 55% of the total population in the other economic sectors.

2/ 50% of the producing persons in the other economic sectors.

3/ In an estimate made by the Ministry of Social Affairs and Labour based on an example taken from Damascus and results applied to Alleppo, Homs, Hama and Latakia, it was found that the number of workers amounted to 200,000 of whom 60,000 were in each of Damascus and Aleppo, 20,000 at Homs, 14,000 at Hama, 22,000 at Latakia, and 24,000 at the other governorates.

12. It is difficult to distribute producing persons in the various economic sectors as industry, communications, commerce and other crafts owing to the absence of an industrial or commercial census.

We have therefore intended to find an estimate of this distribution in order to form an idea for the vocational distribution of producing persons in the Northern Territory. The following is the result arrived at:

80,000	persons in industry and construction sectors	21%
35,000	producing persons in Government services sectors	9%
15,000	" " " communications sectors	4%
55,000	" " as students and army men	13%
180,000	" " in commerce and services sectors	47%
30,000	" " in other professions and unemployed	6%
385,000 1/		100%

13. It is interesting to know the extent of employment of this number of producing persons in the various economic sectors and explaining the extent of masked and seasonal unemployment in every sector in order to determine the amount of extra work which could be accomplished for expansion of the economic development in certain sectors.

14. In the industry sector where laborers work for at least 8 hours during every day of the year, it is possible to say that the masked unemployment decreases to the minimum if compared with other economic sectors.

Nevertheless, there is masked unemployment in this sector due to the existence of several small industrial establishment employing simple hand tools and other old machines, containing one or 3 workers.

If we estimate that there are about 20,000 industrial establishments in Syria of which 2,550 are only large establishments wherein about 26,000 workers are employed, we will consequently discover the considerable volume of unemployment in this sector.

Besides, the bad methods adopted in these establishments for production, make the volume of output in this sector very low if compared with the output in advanced countries.

It is therefore possible to dispense with more than 10 percent of the producing persons in industry if the small number of large establishments.

15. In the communications sector where 15,000 producing persons are employed, it appears that the masked unemployment, in general, is not on a large extent as it is possible to withdraw a number of producers in this sector to be employed in the expansion of this same sector.

The means of transport are similar to those employed in the advanced countries and the means of adoption are also similar to those adopted in the producing countries of these means.

1/ Figures add to 395,000.

16. As to the Government sector, with the exception of the National Defence which employs 35,000 of officials and employees, i.e., one-tenth of the producing persons in cities which keeps an unmasked unemployment exceeding that of any other sectors, as researches proved that the actual hours devoted by any official or employee in performing his duties are 4 out of the 6 working hours. In other words, 1/10 of the producing persons in cities produce 2/3 of their working capacity which is a waste of manpower to the society.

The chief cause of this wasted capacity is due to the lack of effective administration and management in these public establishments.

This surplus in work existing in the form of masked unemployment in the Government sector can constitute a huge reserve for any expansion in the Government Sector.

17. As to commerce and private services sectors, the masked unemployment is hidden in a terrible manner. To prove the outspread of this kind of unemployment, is the number of commercial establishments and other establishments offering services, which are about 50,000 large and small establishments. Whereas the number of commercial establishments and the large services establishments is very small, it is possible to say that the small establishments in which not more than 2 persons are employed, are those supreme in this field.

If we make an account of the actual hours in which the retail seller is working, we will find that they do not exceed 6 hours per day, whereas he fixes 8-10 hours as working hours in his establishment. This means that leisure time intermediating the office hours vary from 2-4 hours.

We can therefore make advantage of the workers of these small establishments by being incorporated in large establishments.

18. From the foregoing it would appear that the masked unemployment in other economic sectors, although it is below the level in the agricultural sector, is still existing in an apparent form.

In the industrial sector we can liberate 1/10 of the producing persons employed without prejudice to the industrial production, i.e., we can liberate 8,000 producing persons in all governorates. We can also withdraw 1/4 of the producing persons in the commerce and private services sectors, i.e., about 45,000 producing persons. Eventually we can expand the government services for absorbing 1/3 of the officials and employees capacity wasted in the form of masked unemployment. That is to say expansions that would absorb 10,000 officials and employees.

It is apparently clear that it is impossible to employ all this wasted manpower amounting to 63,000 persons or 19 percent of the total producers in these sectors, after excluding students and army men, without effecting material change in the organization of work in which the manpower are employed in the various sectors. If no incorporation and centralization of the industrial and commercial establishments and increase in the utilization of modern implements and revision of the methods for the government services; have been undertaken, this power will remain hidden in the sectors without anybody feeling its idleness.

19. Evolution in the increase of producers in other economic sectors in the course of 1957-1967.

Now, if we pursue the evolution in the increase of producers working in industrial, commercial, services and communication sectors, etc. during the succeeding ten years, we observe that an increase of 132,011 producers take place which is a comparatively as low increase to that of the agricultural sector during the same period. The reason is due to the assumption that 1/10 of the women producers whose age varies from 18-60 years will take a share in the production field during the next ten years. The remainder will remain at home.

Relying on the apparent economic evolution which developed in the course of the past ten years, especially in respect of the industrial, commercial and communications sectors, it appears that this increase in the number of producers is not sufficient if compared with the requirements of the industries which shall be established during the next ten years in accordance with the Industrial Program and as a result of the execution of the Development Program referred to in the Development Budget.

In order to meet this shortage in manpower in economic sectors, it is essential to follow one or all of these procedures:

(a) Employment of persons who can be liberated in order to put an end to the masked unemployment existing in all economic sectors.

(b) Employment of a part of the producers in surplus in the agricultural sector.

(c) Taking all steps during the next 10 years to increase the number of female producers who can be employed in the production operations.

(See tables indicating amount of increases during the next ten years).

Increased population in the Other Economic Sectors

1957-1967 1/

Mohafazat	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967
Damascus	439,000	419,975	461,224	472,754	484,572	496,686	509,103	521,830	534,875	548,246	561,952
Homs	142,000	145,550	149,887	153,634	157,474	161,410	165,445	169,581	173,820	178,165	182,619
Hama	98,000	100,450	102,961	105,535	108,173	110,877	113,648	116,489	119,401	122,386	125,445
Deraa	7,000	7,175	7,354	7,537	7,725	7,918	8,116	8,318	8,525	8,738	8,956
Deir El-Zor	21,000	21,525	22,063	22,614	23,179	23,758	24,351	24,959	25,582	26,221	26,876
Haska	21,000	21,525	22,063	22,614	23,179	23,758	24,351	24,959	25,582	26,221	26,876
Aleppo	452,000	463,300	474,882	486,754	498,922	511,395	524,179	537,283	550,715	564,182	578,594
Latakia	70,000	71,750	73,543	75,381	77,265	79,196	81,175	83,204	85,284	87,416	89,601
Swaida	5,000	5,125	5,253	5,384	5,518	5,655	5,796	5,940	6,088	6,240	6,396
Total	1,255,000	1,286,375	1,319,230	1,352,207	1,385,998 2/	1,420,653	1,456,164	1,492,563	1,529,872	1,567,854 3/	1,607,315

1/ This table is made on the basis of an increase of population at the rate of 2.5%

2/ Figures add to : 1,386,007

3/ " " " 1,567,815

N/ B.

Increased Number of Producers in the Other Economic Sectors
1957 - 1967 1/

Mohafazat	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967
Damascus	241,450	247,486	253,673	260,014	266,514	273,177	280,006	287,006	294,181	301,535	309,073
Homs	78,100	80,052	82,237	84,489	86,710	88,775	90,994	93,269	95,601	97,990	100,440
Hama	53,900	55,247	56,628	58,044	59,495	60,982	62,507	64,068	65,670	67,312	68,994
Deraa	3,850	3,946	4,044	4,145	4,148	4,354	4,463	4,574	4,688	4,806	4,925
Deir El - Zor	11,550	11,838	12,134	12,437	12,748	13,066	13,393	13,727	14,070	14,421	14,781
Haska	11,550	11,838	12,134	12,437	12,748	13,066	13,393	13,727	14,070	14,421	14,781
Aleppo	248,600	254,760	261,185	267,714	274,407	281,267	288,289	295,505	302,893	310,465	318,226
Latakia	38,500	39,462	40,448	41,459	42,495	43,557	44,646	45,762	46,906	48,078	49,280
Swaida	2,750	2,818	2,889	2,961	3,034	3,110	3,187	3,267	3,348	3,432	3,517
Total	690,250	707,502	725,372	743,709	762,299	781,354	800,886	820,905	841,427	862,460	884,017
		2/		3/			4/				

1/ This table is made on the basis that producers constitute 55 percent of the population .

2/ Figures add to : 707,447

3/ " " " : 743,700

4/ " " " : 800,877

N/ B.

Increase in Number of Producers actually working in the other Economic Sectors - 1957-1967 1/

Mohafazat	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967
Damascus	135,725	139,796	143,989	148,308	152,757	157,339	162,059	166,920	171,927	177,084	182,396
Homs	23,050	44,341	45,671	47,041	48,452	49,905	51,021	52,551	54,127	55,747	57,419
Hama	49,450	30,333	31,243	32,180	33,145	34,139	35,163	36,217	37,303	38,422	39,574
Deraa	2,425	2,497	2,571	2,648	2,727	2,808	2,892	2,978	3,067	3,159	3,253
Deir El-Zor	6,275	6,463	6,656	6,855	7,060	7,271	7,489	7,713	7,944	8,182	8,427
Haska	6,275	6,463	6,656	6,855	7,060	7,271	7,489	7,713	7,944	8,182	8,427
Aleppo	139,300	143,479	147,783	152,216	156,782	161,485	166,329	171,318	176,457	181,750	187,202
Latakia	21,750	22,402	23,074	23,766	24,478	25,212	25,968	26,747	27,549	28,375	29,226
Swaida	1,575	1,622	1,670	1,720	1,771	1,824	1,878	1,934	1,992	2,051	2,112
Total	386,025 2/	397,396	409,313	420,897 3/	434,232	447,254	460,288	474,091	488,310	502,952	518,036

1/ Increase estimated on the basis of 3 percent yearly.

2/ Figures add to : 385,825

3/ " " " : 421,589

F/ B.

Estimation of Natural Resources

20. The Southern Territory is rich of natural resources. We will endeavor to make a survey of the most important resources, those exploited and those not yet exploited. We will consecutively deal with earth, water, electric power, petroleum, and mineral wealth.

21. Earth is the main source for providing people with foodstuffs, elementary articles for industries. Therefore the vast area of the territory and its rich internal wealth will help in elevating the life level of the population.

The cultivated lands in Syria in 1957 amounted to 583,133 hectares of watered land and 4,366,959 hectars of unwatered lands, i.e., the rate per individual of 0.14 hectars of watered land and 1.5 hectars of unwatered land, or a rate of 0.2 hectar of watered land per individual employed in agriculture and 1.51 hectars of unwatered land. The rate per producer is 0.37 hectar of watered land and 2.75 hectars of unwatered land.

If we wish to give an idea for the share per individual in Syria of watered lands, after converting dry lands to watered lands, to be able to conduct a comparison with other countries, we can confirm that the share per individual in Syria is 0.35 hectars of watered lands on the basis that the products of one hectar of watered land in Syria is equivalent to the output of 5 hectars of unwatered land.

22. The cultivated lands either watered or unwatered lands are not justly distributed, whereas the share per individual in Swaida Province is not exceeding 0.003 hectars watered and 1.38 hectars unwatered, the share per producer in Hasaka is 0.04 hectar watered, and 9.6 hectars of unwatered land. The following table indicates the share per individual in the various governorates:

Governorate	Rate per Individual in watered land Hectars	Rate per Producer in unwatered land Hectars
Damascus	0.366	0.503
Homs	0.303	1.237
Hama	0.565	3.950
Deraa	0.052	4.310
Deir El-Zor	1.180	0.987
Hasaka	0.040	9.600
Aleppo	0.334	3.650
Latakia	0.067	0.806
Swaida	0.003	0.310

23. The cultivated lands referred to are not limited and is not liable to expansion, but it is to the contrary there are vast areas of lands fit for cultivation but not yet cultivated either because it is ungenuine and bad in proportion to the neighboring cultivated lands or that their share of rain water is insufficient to yield crop of that in order to provide them with water needs efforts are beyond individuals.

The distribution of lands in Syria is of different nature. Whereas the share per producer in Deir El-Zor and Hasaka is 5.66 hectars and 2.89 hectars respectively, the share per producer in Deraa Province is only 0.05 hectars. The undermentioned table indicates share per producer in lands suitable for cultivation but not previously planted, in all the governorates:

Governorate	Hectars
Damascus	1.36
Homs	3.28
Hama	0.48
Deraa	0.05
Deir El-Zor	5.66
Hasaka	2.89
Aleppo	0.72
Latakia	0.21
Swaida	0.56

24. From this it will be found that the resources of the Northern Territory of the lands suitable for plantation are very large but the main obstacle standing in the way of exploiting those vast areas is the absence of water in spite of the immense water resources in Syria, most of which are wasted. This is the reason which led to give priority to irrigation projects in order to give life to these vast dry lands.

25. Water Wealth. Syria is rich in its abundant water wealth. The rivers output is approximately 30 billion m^3 but very limited advantages are obtained. The quantity of water absorbed in irrigation is nearly 4 billion m^3, i.e., 13 per cent irrigating about 400,000 hectars.

This distribution of the water is not just, compared to other resources. This wealth is mostly centralized in the northern zone, in Euphrates and Khabbour rivers. The output of the Euphrates is 25 billion m^3 yearly, i.e., 83 per cent of the whole output of the rivers.

The water wealth is therefore partially exploited although this river flows across the territory for about 680 kilometers. The area of lands watered by this river is about 2,000 hectars in 1957. If we suppose that a hectar required 0.5 litres per second, the water taken by these lands is about 2 billion m^3 per year or about 16.1 per cent of the total output of this river. Half of the river output is wasted as neither Iraq or Syria benefit therefrom, besides it constitutes hazard for the crops and people during high floods.

The water wealth is sufficient to irrigate vast areas. If we suppose that our share of Euphrates water is half, leaving the remaining half to Iraq, the total output of rivers which we can dispose of is about 17.500 billion m^3 which is sufficient to irrigate more than 1,750,000 hectars on the basis of giving 0.5 litre per second to the hectar, i.e., we can irrigate lands which were not previously irrigated or planted amounting to 1.2 million hectars in addition to securing water to lands formerly irrigated which amount to 600,000 hectars.

26. Electric Power. Statistics made in 1957 show that the electric power generated in Syria was 98,600 KW. Most of this energy is generated by public establishments. The rate of hydraulic energy is less than 14%. The greater part of the electric power is generated by the

steam motors. The amount of electric power generated last year was 262,000,000 KW/hour of which 232,000,000 KW are only consumed.

This power is distributed as follows:

	Generated Power in KW	Generated Power in 1,000 KW/hour
Public Establishments:		
Nationalized	60,000	170,026
Municipal	7,146	8,049
Total	67,146	178,075
Private Establishments:		
Public Activity	3,905	2,768
Private Activity	27,596	81,300
Total	31,501	84,068
Grand Total	98,647	262,143

The amount of power actually consumed is estimated as follows:

	Per 1,000 KW/Hour	Percentage
Light	91,258	39
Industry	136,777	59
Tram	4,304	2
	232,339	100

or 89 per cent of the total generated power.

If we consider that the quantity of electric power consumed in Syria during 1956, estimated at 137 million KW/hour, as basis of calculations and the rate of 14 per cent to represent yearly increase, the future expected increase in consumption will be:

In 1968, the yearly consumption will reach 685 million KW/hour

In 1978, " " " " " 2466 " "

The reduction in the needs of electric consumption is not at all economical if it is generated from thermal resources in view of its high expenditures and the difficulty of importing spare parts of the tools of fuel. This will cause a rise in the prices of the consumed power which will make its use of advantages as limited.

For this reason the advantage of generating power from the water falls in Syria is of vital importance to the economic development.

The 10-year Program for Economic Development in Syria, aims at generating power from water falls at the following estimates:

	Power in KW
Euphrates Basin	300,000
El-Asi Basin	23,300
Other Projects	32,500
Total	355,800

The possibilities of hydro-power in Syria exceed 500,000 KW. The Euphrates basin constitutes most of those possibilities as its power is 450,000 KW. If it is possible to exploit this abundant hydro-energy, the Syrian Territory could have electric power exceeding needs for the next 20 years. If this hydro-power is employed even at half capacity, the Syrian Territory could be supplied by 2,216 million KW/hour yearly which will cope for any unexpected increase in consumption during the next 20 years.

27. Petroleum Wealth. The possibility for the existence of petroleum in the Northern Region differs according to the geological structure. We can classify the region in general zones with respect to is petroleum possibilities.

(a) Zone for good possibilities. This includes the sedimentary Jezira Basin and the sedimentary basin to the east of Latakia. There are many geological components and stones in the Jezira Basin in which petroleum is formed in the secondary and tertiary eras as confirmed by explorations conducted for discovery of petroleum. It was found that most of the enclosing stones were limestone or dolomite usually found in the second and tertiary eras. There are also sand stones which serve as reservoirs for petroleum. This was apparent in Jebel El- Bushra where asphalt was found in this zone which indicates that there was no airtight cover for preventing the oxidation of petroleum and its transmission to asphalt.

Certain quantities of petroleum were explored in this zone which can be commercially invested.

(b) Zone of Fair possibilities. This lies to the east of Latakia to the northern part of river Jordan left and across the Turkish boundaries. No adequate geological and geophysical researching studies having been made to determine as to whether or not petroleum is existing.

(c) Zone of ambiguous possibilities. This forms the remaining zone. The reason of uncertain possibilities is due to no definite idea could be determined whether the layers for the first era contain enclosing stones. It is therefore advisable to await the results of the exploring excavations which will be accomplished early next year.

Petroleum

The zone which is worthy of attention is the Karatchuk zone. A vast oilfield was explored having an enclosing quantity of 40 million tons. Five wells have been excavated. No survey could be given for the accurate quantities as more wells shall be excavated. If we imagine that 2 million tons will be extracted every year the age of the field may be 20 years.

Other researches will be carried out in the western part of Karatchuk, Ramelan and Alfona which may reveal to the discovery of other petroleum zones. We remember that petroleum was discovered in Alfona zone which gives hope to its being existing in this zone. It is also probable that petroleum will be found in the zone lying to the north of the Euphrates. We should better await the results of the geological and geophysical researches (seismographic and gravity) to determine the accurate possibilities of this zone.

There are also various zones as the Tadmoria range and north of Aleppo. Present researches may lead to good results.

Asphalt

Asphalt is found in great quantities in two zones of the Northern Region: El-Bushra zone and Kifria zone lying between Aleppo and Lattakia. The Bushra zone, lying to the south of the Euphrates, which contains substantial quantities of asphalt, is not yet economically exploited. As to the Kifria zone, the French Oil Company was exploiting asphalt out of quarries at Rapura and Azrak. It was supposed that these quantities of asphalt will not run out before 70 years. Asphalt is made into tiles for pavement of streets and also treated for pouring on roofs to become waterproof. It is also used in asphalting roads. The production of asphalt is still carried out in a primitive way.

There are also other resources for bitumenous substances as the bitumenous marl which is found in various zones as the Dumer on the road to Damascus-Baghdad where the bitumenous substances are extracted by filtering.

28. Mineral Wealth. There are certain hidden mines for several metals, i.e., chromite, manganite, malachite, ilesite, asbestos, hematite, callainite.

Chromite

There are mines to the north of Latakia in the Basit zone in the form of eruptive rocks called green rock, as they are of green color. It exists in various places of this zone in the form of streamline ores.

Chemical composition 1/. It is found in this zone in three kinds:

1. 1st kind rate 48%
2. 2nd kind rate 30%
3. 3rd kind utilized in chemical reactions.

The 1st kind is found in small quantities whereas the 2nd and 3rd are found in substantial quantities.

Exploration operations after chromite in this zone were numerous and scattered throughout an area of 80 kilometres as small quantities exist in some places and big quantities in others.

No technical explorations had yet been undertaken in this zone in order to limit its possibilities. It is hoped that prompt technical explorations will be accomplished in the course of the next 3 years as among projects which will be undertaken by the Soviet Union by agreement is the exploration for chromite and other metals.

There are three places deserving explorations, i.e., Shut El-Armout, Jebel Musailama and Alazqa.

Manganese

This is found in various localities in the same zone accompanied by red radialite rocks twisted and smashed.

It has two compositions: pyroliesite, manganite and the ratio is 30% and 40% and contains a reasonable rate of silice. Various explorations had been made in the zone and the exploited quantities together with substantial quantities of chromite were sold to Mr. Rodolph Sada.

1/ Not given.

The exploration for manganese is included among metals which shall be undertaken by the Soviet Union.

Copper

It is also found in the same area, but no exploration after this metal had as yet been undertaken. It is observed to exist in three places in this zone in the vicinity of Kora Fallah, Jebel El-Gharby, Jebel El-Nobi Bobo and near to Zanzaf village. It is found in the form of (Mahachite) with lemonite. Copper is found in the state of mahachite (copper carbonite) and chalco pyrite. It is possible that substantial quantities will be discovered on geophysical explorations for tracing the eruptive acid rocks accompanying copper.

Asbestos

It is found in the form of lodes of peridotite and in tectonic places, thus found scattered throughout the zone. Asbestos here is of bad quality as it does not give good threads. It is found in this zone in the green peridotite rocks. Possibly its formation is due to eruptive acid rocks.

Iron

It is found in the Northern Region in the shape of hematite, lemonite and pyrite. It is known in the following zones: Rago, Jabata El-Zeit, Massaada and probably in some other places.

In the well known places no proper explorations have yet been made. Two or three mines were dug but the bottom layers were not reached. It is preliminary estimated that 6-7 million tons exist which is a sufficient quantity. Anyhow a geological map should be drawn up for geophysical operations (as already explained in my previous report) in order to give a definite idea for the existence of this important metal.

Lead

It is found in the Jabata El-Zeit area in the shape of lead sulphur (callainite). It is not known to exist in other zones.

Three excavations were dug by private individuals but no technical exploration has yet been undertaken. It is observed that no silver accompanies this metal which indicates that it is distant from the acid streamline rocks causing its existence in this zone. In order to determine definitely its prevalence is to undergo geophysical works (magnetic) and full geological explorations.

Probable existence of Uranium in the Northern Region

The probability that uranium exists in this Region is very weak because uranium always accompanies granite streamline rocks in nickel cobalt ores, bismuth, silver, gold, lead ores, zinc, copper with pyrite.

Our knowledge in respect of uranium being found with other stones is very weak (general scientific knowledge). There are many examples for its probable existence in stones other than those indicated. The only solution to clarify the way is to undergo extensive and full explorations in comparison with various uranium ores in the world. Perhaps some stone in the region contain this metal of which bitumenous stones are preferable. These are abundant in the Region. Uranium exists in these stones in the form of organic compound (invisible). For realization Geiger Counter should be employed.

In other sedimental rocks uranium exists in the form of organic compound. These rocks are of various vivid colours.

It is advisable to provide geologists with Geiger Counters for prompt exploration in addition to their main works.

Estimates of the Savings and Investment Resources

29. After this review of human and natural resources in Syria, it is important to review its saving investment resources. As without capitals it is impossible to exploit idle resources, it is essential, therefore, to estimate this power and to determine whether it is sufficient for exploiting our great resources.

We have no statistics to give us true knowledge of the amount of the saving capacity in Syria, but we can arrive at our aim by estimating the volume of investment.

The total amount of local investments in Syria during 1950-56 amounted to L.S.1,774 million, i.e., an average of L.S.253 million. These investments were distributed in each of the Public and Private Sectors according to the following table:

Volume of Investments in the Syrian Territory - 1950/56
Estimated in Million Liras

Items	1950	1951	1952	1953	1954	1955	1956
Private Sector							
Constructions	62	57	73	89	108	109	107
Industrial tools	33	31	21	58	71	77	69
Agricultural implements	19	37	24	16	35	33	24
Irrigation & Land improvements	23	22	7	5	1	23	27
Transport	10	14	15	23	43	38	29
Total Private Sector	147	161	140	191	258	281	256
Public Sector							
Irrigation	1.3	2.3	3.4	4	4.3	6.4	12.3
Industrial tools	4.5	7.0	9.5	2.4	3.8	7.1	10
Constructions	4	2.9	2.1	3.3	3.8	4.8	9
Transport & Railways	7	6.8	6	6.2	12	19.2	21
Municipal Services	10.7	12.0	13.5	20	16	16.5	19.8
Researches	0.4	0.5	0.6	0.7	0.5	0.6	0.7
Maintenance of Roads	3.6	4.3	4.9	4.8	5.7	9.7	9.5
Total Public Sector	31.5	35.8	40.0	41.4	46.1	64.3	82.3
Grand Total:	178	197	180	232	304	345	338

30. This table explains that the volume of investments in Syria is tremendously large if compared with those in non-advanced countries, the rate of which varied during the last seven years between 10.4% and 20.9% out of the national income, with an average of 15.3%, a rate which is rarely available in countries economically advancing. We will give reasons for this high rate.

The distribution of investments in both the Public and Private Sectors is incomparable. The total investments in the private Sector during the last seven years amount to L.S.1,432.6 million whereas it was only L.S.341.4 million in the Public Sector, that is to say that the rate of investments in the Private Sector to total investments amounts to 80% and the balance of 20% for the Public Sector.

If we accurately distribute the volume of investments in the Private Sector on the various economic sectors we will find that it is distributed over the constructional, industrial, agricultural and transport sectors, but what attracts more attention is the construction sector which obtained the greater share of the total investments in the Private Sector, as investment in the sector was L.S.109 million in 1955 and the rate of investment in this sector in proportion to total investments in the Private Sector reached 52 per cent in 1952, i.e., more than half the savings of individuals have been invested in the sector of construction.

In the Public Sector where the rate is only 20 per cent of the total investment in the Syrian Territory during 1950-56, this is distributed in investments undertaken by the various Government Ministries, administrations and public establishments and other investments undertaken by municipalities. The previous table indicated that the municipal, transport and communications services received the greater share of public investments.

The following two tables indicate the present distribution:

Rate of Gross Investments in the Economic Sectors
1950-1956

Total Private Sector = 100
Total Public Sector = 100

	1950	1951	1952	1953	1954	1955	1956
Private Sector							
Total Private Sector	100	100	100	100	100	100	100
Construction	42	35.5	52	46.6	42	38.8	41.8
Industrial tools	22.5	19	15	30.4	27	27.4	27
Agricultural implements	12	23	17	8.5	13.6	11.7	9.4
Irrigation & Land improvement	16	13.5	5	2.5	0.4	8.2	10.5
Transport	6.5	9	11	12	17	13.9	11.3
Public Sector							
Total Public Sector	100	100	100	100	100	100	100
Irrigation	4.1	6.4	8.5	9.6	9.3	10	15
Industrial tools	14.3	19.5	23.75	5.9	8.3	11	12.4
Constructions	12.7	8.1	5.25	8	8.2	7.4	11
Communications, Transport & Railroads	22.3	19	15	15	26	30	25
Municipal services	34	33.5	33.75	48.3	34.7	25.6	24.3
Researches	1.2	1.4	1.5	1.7	1.2	1	0.8
Roads & Sideways maintenance	11.4	12.1	12.25	11.5	12.4	15	11.5

Rate of Investments in the Economic Sectors
1950-1956

Total for Investments = 100

	1950	1951	1952	1953	1954	1955	1956
Total of Investments	100	100	100	100	100	100	100
Private Sector							
Construction	34.7	29	40.5	38.3	35.4	31.3	31.3
Industrial tools	18.5	16	11.7	25	23.3	22.3	20.4
Agricultural implements	10.6	19	13.3	7	11.5	9.5	7.1
Irrigation & land improvement	12.8	10.7	3.9	2.1	0.3	6.7	8
Transport	5.7	7.2	8.3	10	14	11.2	8.9
Total	82.3	81.9	77.7	82.4	8 .5	81.0	75.7
Public Sector							
Irrigation	0.7	1.2	2	1.7	1.4	1.8	3.5
Industrial tools	2.5	3.6	5.2	1	1.3	2.3	3
Construction	2.3	1.4	1.2	1.4	1.3	1.4	2.6
Communications, Transport & Railroads	4.0	3.4	3.4	2.6	4.2	5.5	6.2
Municipal services	6	6.1	7.5	8.6	5.6	4.9	5.8
Researches	0.2	0.2	0.3	0.3	0.3	0.2	0.2
Roads & Sideways maintenance	2	2.2	2.7	2	1.5	2.9	3
Total	17.7	18.1	22.3	17.6	15.5	19.0	24.3

31. Remarks on the present distribution of the investments volume.

This organic distribution has its own advantages and disadvantages. The principal advantages are:

A. It increases the yearly increase in the National Revenue, because when the majority of the investment volume is directed to the Private Sector which undertakes investment of savings in industries of consumption such as factories for the production of consumer goods or agriculture 1/ of lands for foodstuffs or for animals, or alimentary articles, or constructions for habitations, or for factories, merchandise or imports of means for transport etc.. We confirm that assigning this greater part of investments in such a way will effect an increase in the National Revenue. This is the cause why certain people enjoyed luxury and material convenience during the last 10 years when the level of living and rate of individual income were apparently improved.

The following table shows that the net National Revenue was increased at the rate of 60 per cent during the last six years 1951-1956. The net increase in the rate of the individual income was 29 per cent in 1956 above the rate at the end of 1950.

1/ The employment of a part of the investment in the agricultural field for exploiting the vast areas which were not previously exploited and occupying the idle manpower, partially or wholly, in the field, has played a great part in the increase of the National Revenue, in spite of the insignificant rate which was employed, not exceeding 15% of the total investments.

Year	Net National Revenue	Increase in Net National Revenue	Individual Income	Increase in Individual Income
1950	1,187	100%	365	100%
1951	1,431	121%	429	118%
1952	1,641	138%	478	131%
1953	1,444	132%	395	108%
1954	1,690	143%	443	119%
1955	1,568	133%	401	110%
1956	1,995	169%	471	129%

B. It directs the savings towards industries vigorously called for. No sooner investors hear of any goods or services which have active demands realizing reasonable profits, no later they would hasten to produce these goods or services, the case which will realize the prospects of the society.

The disadvantages consist in the following:

A. It lowers the capacity of the country in increasing production in future in that it forwards a feeble part of the investments to capital industries undertaken by the Public Sector such as investment industries, laying down, of rails, river dams and power stations, etc. will weaken the country's efficiency for production in the future, because investments in those projects, although they decrease the rate of the national revenue during the course of establishment, contrary to the case in the production of industries for consumption, it stimulates the country's productive efficiency, on completion of the projects, up to a high rate. On the other hand, the rate of increase of the national revenue starts to go up in a palpable manner which can hardly be compared to the rate of increase had investments been directed to industries of consumption.

B. It exposes the Syrian Territory to serious risks, as the dependence of this territory entirely on agriculture which, in turn, depends on rains, would expose economic and social life to serious dangers, whenever rain ceases to fall, the summer cultivations, and especially cotton, will greatly suffer of dryness thus causing a marked drop in the national revenue to 2/3 or a loss of L.S.700 million.

C. It directs investments in industries for consumption according to the principle of more profits. The industries for consumption which possibly realize excess in profits - making account of probable risks - are those which take the greater share of investments, although the nature of these projects will not increase the commodities of consumption, but it increases the offer of certain services. The best example is the industry of construction which absorbs - as already explained - 43 per cent of the total investments in the Private Sector, the ratio of which will not continue in an unadvanced country in economy which is in need to enormous sums of money for investment in great resources not yet exploited.

From the foregoing it is gathered that the national savings, which finance the greater part of investments estimated, are sufficiently adequate to invest a marked part of our natural resources not yet exploited. If the organic distribution of our investments in the sectors, which was mainly restricted to the production of commodities for consumers and other alimentary articles, has caused an increase in the volume of commodities for consumption due to the presence of unexploited lands, it is essential that in this stage the distribution of investments be reconsidered. A marked part of the investments as well must be directed to productive commodities represented in the development projects.

Estimation of Financial Resources in the Public Sector

We have already explained that the capacity of the Public and Private Sectors of the Syrian Territory for forming capital is too great but it is essential to make an account of the annual capacity of each Sector during the next ten years. This leads us to discuss the following:

(a) Financial resources for the Public Sector for preparing the Development Plan before 1958.

(b) The financial resources for the Public Sector during the next ten years 1957-67.

(c) Distribution of the financial resources for the Public Sector for current expenditures including services and development expenses during 1957-67.

(d) Maximum financial capacity for the sector with comparison to credits inserted in the Development Program for 1957-67 (Development Program for the next 10 years and the Industrial Program for the next five years).

(A) Financial Resources for the Sector during past years for laying down the Development Plan

33. It is possible to classify the financial resources of the Sector by the following:

1. The State Budget - with the exception of Petroleum taxes.
2. Taxes for petroleum passing through the Region.
3. Supplementary and independent budgets which are connected or not connected to State Budget.
4. Budgets of Administrations, Departments and Establishments not included in Article 3.
5. Budgets of Municipalities.
6. Public case of debt.
7. Issue Establishment or the Central Bank of Syria.
8. Foreign loans.

The reason why we entered all these sources in our account for the financial resources of the Public Sector not satisfied with dealing with some of them only, is to make a survey of all the resources of the Public Sector so that full knowledge of the financial capacity of this Sector could be acquired and also its capacity for financing development projects either this is individual or supplied by the resources of the administration or the relative establishment or any other public source.

Resources of the Public Budget

34. In limiting the resources of the Public Budget, we will restrict to actual resources which the State yearly levies from the public out of the full income of the National Revenue, excluding other resources under the heading of Revenue in the Public Budget. We shall therefore exclude from the State Budget (Revenue Table) the following revenues:

1. Revenues from the Reserve
2. Revenue collected from petroleum taxes
3. Revenue collected from the Organization of Issue and the Central Bank of Syria.

We excluded these revenues in order to realize the actual efficiency of the State during the years preceding the procedure for collecting money from the public by imposing taxes, fees and fines, on the consideration that these are elements either taken out of money collected in preceding years or from foreign or national establishments by way of loans or services. This does not mean that we totally excluded them but we will later deal with them as general resources for the State. But our desire is to make a survey of the capacity of the State in respect of money collected from the public by way of its taxes arrangements. The following table indicates the amounts of these resources during 1950-57:

Resources of State Budget
Estimated in Million Liras

Year	Resources 1/	Yearly Increase	Average Yearly Increase	National Revenue	Rate	Average Rate for National Revenue
1950	130.6	-		1250	10.5	
1951	151.5	+16.1%		1506	10.6	
1952	172.0	+13.9%		1727	10.0	
1953	206.2	+20.0%	13%	1520	13.5	12.3%
1954	228.2	+10.6%		1780	12.8	
1955	257.1	+12.7%		1650	15.6	
1956	277.6	+ 7.7%		2200	12.5	
1957	303.3	+ 9.3%		2312	13.1	

1/ Excluding revenue collected from petroleum taxes.

The revenue of the State rose up from 130.6 million Liras in 1950 to 303.3 million Liras in 1957, i.e., with an increase of 144% during the last 7 years at an average yearly rate of 19%. The rate of these resources to net national revenue varies from 10-15.6% during the years 1950-1957 and an average rate of 12.3%.

Resources from Petroleum Taxes

35. The taxes collected from petroleum passing through the Syrian Region did not constitute a marked figure. The agreements made between Syria and the oil companies did not provide Syria with significant resources but the new agreement with the Iraq Naphta Company dated December 6, 1955, allowed Syria a good resource. Whereas the petroleum taxes, including profits of foreign currency expended by foreign companies in Syria did not exceed L.S.23 million before 1956, it rose to L.S.56 million at the end of 1956. Had it not been for the tripartite aggression the figure for 1957 would have exceeded that of 1956. Nevertheless taxes are progessing subsequent to the repairs of the ruined apparatuses. Taxes registered the figure of L.S.24 million during the first half of 1958 and it is expected that the figure will rise to L.S.85 million 1/ in 1958-59, on the assumption that the government will arrive at an agreement with the Tapline Company whereby taxes will be higher than those collected by the previous agreement. The following table indicates amounts of the petroleum taxes:

1/ State Budget estimates.

Year	Taxes in Million L.S.	Resources of the State Budgets 2/ in million L.S.	Percentage	Average Percentage
1950	8.2	130.6	6.1%	
1951	8.3	151.5	5.3%	
1952	8.5	172.2	5.0%	
1953	12.8	206.2	6.2%	
1954	17.1	228.2	7.4%	
1955	22.3	257.1	8.6%	
1956	143.2 1/	277.6	51.0%	18.7 5/
1957	32.8	303.3	10.8%	
1st half 1958	24.0	156.6 3/	15.4%	
1958-59	85.7 4/	329.4 3/	16.0%	

1/ Out of which 56.8 million Liras are for the 1956 taxes and balance represents loans on taxes up to end of 1955.

2/ See previous table.

3/ Estimates.

4/ Include differences of taxes of the Tapline Company due to the new agreement to be signed shortly.

5/ Percentage of taxes with respect of 1956 only.

It will be seen from the foregoing table that the participation of petroleum taxes in the resources of the State are increasing yearly as the rate of the share of the taxes to the resources of the State was 6.1% in 1950, this rate jumped to 18.7% in 1956, although the Naphta Company ceased to pay taxes during the last two months of the year, had it not been so the amount of taxes would have been L.S.62 million and the rate 20.4%, i.e., constituting 1/5 of the ordinary State resources.

Resources from Supplementary and Independent budgets

36. No survey of the full State resources could be precisely made out without making account of the resources of the administrations, departments and other administrations and establishments financially and administratively independent from the State. These establishments are of two categories:

(a) Administrations, departments and others annexed or independent which have relation to the State budget.

(b) Administrations, departments and others annexed or independent which have no relation to the State budget.

The first category either participates in the State resources (general Resources of the Budget) or to the contrary, the State Budget covers its full expenditures.

The second category undertakes its revenue and expenditure without participation in the State Budget.

We have to mention in this respect that the nature of resources of certain of the annexed or independent administrations are different from the resources included in the State Budget. For this reason it could be classified into two categories:

A. Resources which resemble those of the State budget, i.e., resources having the quality of taxes.

B. Other resources which have not the quality of taxes representing offer of commodities or services to the public in prices not including a tax element.

As we are discussing the State revenue representing tax element only and no other resources, we will try to make a survey of these kinds of resources imposed by these independent administrations.

The main cause which led us to take this principle is to make a survey of the State resources of which a part could be assigned for financing the economic development projects.

The second category of the resources referred to in B representing revenues of the annexed and independent administrations towards expenditures for commodities and services as alimentary stuffs. These cannot be inserted with category A of the revenues representing taxation elements as no part of which can be employed in financing the Development Program.

Independent or Supplementary Budgets which have relations to State Budget

37. This category of budgets can be classified in two divisions:

A. Budgets participating in the revenue of the State Budget 1/:

1. Budget of the Customs Administration.
2. Budget of the Tobacco and Tombac Administration.

B. Budgets in which the State revenues participate in financing:

1. Broadcasting Administration budget.
2. Antiquities Administration budget.
3. Budget of the Arab Academy of Sciences.
4. Budget of the Damascus University.

In this category of budget the descriptive nature of taxation exists. Whereas the first section of this category of budgets have mostly been inserted in the State Budget Revenue, therefore there is reason for recording it again for fear of repetition. There is, however, another item for the revenue of this category which, in spite of having the same characteristics of those incorporated in the State Budget Revenue, has not been inserted in State Budget Revenues because it has been utilized as expenditure for the administration itself.

As we wish to survey the resources of the Public Sector characteristic of taxation elements, irrespective of its directions of employment, it is essential to register the amounts of these resources.

1/ The State participated in the revenues of these budgets by a sum of L.S.7.2 million in 1956 and 1957.

	1955 In Million L.S.	1956 In Million L.S.	1957 In Million L.S.
Customs Administration	6	5.3	6.9

As regards the Tobacco and Tombac Administration, it was supposed that its surplus revenue, which has been incorporated in the State Budget, possesses the characteristic elements of taxation on the basis that payments to employees and workers were not drawn from tax resources, as is the case in the Customs Administration, but was drawn out of the prices of manufactured products on account of their participation in production processes.

As regards the second section of the budgets, we have considered the resources for the Broadcasting Administration only as tax revenues and to a certain extent the revenues of the Damascus University on the assumption that there are taxes in the State Budget which resemble in nature those of the Damascus University. The resources of the second section which have not been entered into the State Budget are:

	1955 In Million L.S.	1956 In Million L.S.	1957 In Million L.S.
Broadcasting Administration	1.1	0.9	0.7
Damascus University	-	2.5	2.7

Independent & Supplementary Budgets having no Relation to the State Budget

38. It is possible that the revenues of this category are not characteristic of the tax stamp, because these administrations are only public commercial or industrial establishments offering their products or services at nearly the cost price or even lower. Their revenues are composed of sale prices of either products or services or of loans granted by the State. For this reason it is not justifiable to include their resources to those of the State Budget or to resources of certain revenues for independent or supplemented administration which are linked to the State Budget as already explained. But in view of the fact that the prices of products or services of certain of these administrations may, in some instances, represent tax elements, lying in the difference between cost price of the product or service, it was intended to include revenue resulting from this difference to resources of the State Budget. As the extraction of this difference in each administration is rather difficult, we preferred another method by which we can obtain this difference. This method is based on the supposition that this difference will be utilized in developing the relative administration or in the settlement of loans granted by the State.

The same thing applies to certain other public establishments or nationalized public establishments undertaking commercial and industrial business, such as electricity, water, Latakia Port and the Central Bank.

In compliance with this method, the resources of these two categories of administrations and establishments will be as follows:

Administration or Establishment	1956 In Million L.S. 1/	1957 In Million L.S.
Post, Telegraph & Telephone Administration	4.8	4.9
Electricity Organization	6.0	6.0
Water Organization	4.0	4.0
Central Bank	-	5.3
Latakia Port	1.7	1.3

1/ Approximate figures

Resources coming by way of the Municipal Budgets

39. On account of the revenues of municipalities being similar in nature to those which are entered into the State Budget, it is possible to state all the resources of the municipalities will be included into the State Budget. The revenues of the municipalities during the past years amounted to:

1955	1956	1957
(In Million Syrian Pounds)		
40.2	44.9	34.0

Resources of the Public Debt Fund

40. The resources of the Public Debt Fund, according to standing laws, are limited to the following:

(a) Sources relating to financing the projects of establishments and companies shown in Tables 3 and 4 annexed to the law on exceptional budget.

(b) Sources relating to financing administrations, establishments and municipalities benefitting by the provisions of paragraph 3 of Article 21 of the law on public debt.

(c) Sources connected with amortizing financial undertakings, amalgamated state debt and settlement of loans.

(d) Sources relating to financing the projects referred to in the development budget.

As regards the sources of (a) and (b), they are:

1. Recovery of loans granted by the State to administrations, establishments and companies.
2. Investment of bonds and Treasury bills.
3. Loans from the Issue Establishment.
4. Loans from available Treasury funds.
5. Proceeds of foreign loans.
6. Central bank.

The sources of (c) are:

1. Credits provided for the fund, either from the State Budget or by legal judgements having financial quality.
2. Receipts of interests and share profits.
3. Proceeds from sale of government lands.
4. Donations and will granted to the State.

5. Share of the Ministry of National Defence from the Wakfs.
6. Net receipts of the currency fund.
7. Net profits of the Central Bank of Syria.
8. Recovery of loans.
9. Taxes and fees for the fund.
10. Receipts of the investment of the fund's available assets.
11. Secondary receipts.

Sources of (d) are as follows:

1. Proceeds of foreign loans according to standing laws or laws which shall be issued.
2. Proceeds of internal loans through the Public Fund of debt, composed of:
   - a. Recovery of former loans.
   - b. Private and public resources of the Public Fund of Debt.
   - c. Investment of Public Debt stocks in accordance with laws in force or future laws.
   - d. Available Treasury funds according to provisions of Article 13 of this law.
   - e. Central Bank of Syria pursuant to Article 13 of this law.
3. Receipts from development projects.
4. Participation of the State Budget.

On inquiry into the sources of all the resources of the Public Fund of Debt, we found that they lead to the following sources:

(a) Private and public receipts.

(b) Recovery of all loans, granted by the State.

(c) Loans of the Issue Establishment or the Central Bank.

(d) Investment of stocks in banks, public establishments or by the public.

(e) Treasury loans.

(f) Foreign loans.

As sources (c) and (d) - Loans of the Issue Establishment or the Central Bank and Foreign loans - will be discussed later and that the Fund did not yet commence investment of stocks and that the Treasury loans are either excesses of revenues over expenditures in the State Budget which we had entered into the resources of Public Budgets of the State, or a part of deposits or private accounts opened in Treasury accounts and which do not constitute real resources for the State, the resources of the Fund are confined to private and public receipts and recovery of loans.

The receipts of these two sources were:

	1956	1957
	In Million L.S.	
Public and private receipts	3.0	4.3
Recovery of loans	6.7	12.8
Total	9.7	17.1

Resources coming through the Central Bank of Syria

41. In accordance with the provisions for currency, the Central Bank of Syria undertakes the grant of two kinds of loans to the Government Sector:

A. Long term loans within specific limits.

B. Short term loans within specific limits.

We will give a record of the long term loans granted by this Bank during 1955, 1956 and 1957. Our object is to decide the amount of power of the Bank in financing the Public Development Projects. The previous table indicated amounts of long-term loans granted by the Issue of Currency Establishment and the Central Bank.

We did not differentiate between the amount of net public debt employed in development purposes and the amount of debt employed in non-development purposes. The reason is due to our wish to know the amount of loans presented by the Syrian and the two branches of the Lebanon Bank 1/ (Issue and Commercial) or the Syrian Central Bank after getting in possession of the apparatus for issue of currency from the Bank in question to the Public Sector.

The table in question indicates that the Syrian and Lebanon Bank or the Syrian Central Bank have granted net loans, (balance of former loans were deducted per year) to the Public Sector during former nine years 1949-1957, amounting to L.S.107.5 million, i.e. an average yearly rate of L.S.12 million.

42. Should we like to know the amount of general loans granted either by the Syrian and Lebanon Bank or by the Central Bank of Syria during 1948-1956, we will find that these are estimated at L.S.233.9 million, with a yearly average of L.S.26 million. The following table gives the amounts and distribution of these loans:

Project	Amount in L.S.	
Municipalities	19,364,000	
Provisions	50,000,000	
Cereals Office	6,000,000	
Railroads	3,000,000	
Agricultural Bank	19,398,377	
Aleppo Water	20,000,000	
Electricity Organizations	10,000,000	
Guaranteed companies	16,927,000	
Exceptional Budget for 1949	40,000,000	
Program of 1951	34,000,000	
Up to end of 1955	218,689,377	
	6,400,000	1/
	212,300,000	
Loan of 1956 to be added	21,600,000	
	233,900,000	

1/ L.S.6.4 million to be deducted representing loans offered during 1945-47 (Report of the International Bank for 1953, page 550)

1/ We have mentioned the two branches in order to know the amounts of loans granted to the Public Sector, either through the issue of currency or from public deposits.

	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957
	(In Million Syrian Pounds)									
Direct Debt 1/	104.2	109.0	131.5	151.0	164.1	166.8	145.0	152.2	152.6	152.6
Indirect Debt 2/	54.1	67.1	66.6	90.7	114.1	119.6	116.8	113.2	134.5	134.5
Total	158.3	176.1	198.1	241.7	278.2	286.4	263.1 *	265.4	287.1	287.1
Commitments which did not reveal means of payments	65.8	65.8	83.0	84.5	85.1	87.1	87.1	87.1	87.1	87.1
Net Public Debt taken from the Central Bank 3/	92.5	110.3	115.1	157.2	193.1	199.3	176.0	178.3	200.0	200.0

* Figures add to: 261.8.

1/ The direct debt includes:
1. Difference for the devaluation of the French Franc.
2. Loans without interests to the State.
3. Loans to the Ministry of Civil Defence.
4. Subscription fees to the International Monetary Fund and International Bank for Reconstruction and Development

2/ Indirect loans refer to all loans granted by the Central Bank to administrations, public establishments and private guaranteed companies.

3/ After deduction of old loans granted to the Exchange Control.

Short-Term Loans

43. In accordance with the stipulation of paragraph 2 of Article 35 of the Fundamental Exchange Regulations, the Central Bank of Syria offers a loan with interest for securing funds in the Treasury in the limit of 1/10 of the annual receipts of the Budget which must be settled before the expiry of the financial period.

This loan ranged between 2 and 20 million Syrian Pounds in 1957 and was settled before the end of December.

If the Ministry of Treasury continues the application for this loan in the next years this loan may be given the form of long-term loan owing to its duration during the months of the year.

Foreign Loans

44. The Syrian Region did not contract for foreign loans prior to the Soviet Agreement in 1957, except two loans from the Saudi Arabian Government amounting to $6 million and $10 million or the equivalent of L.S. 65.5 million. This took place in 1950 for the first loan and December 30, 1955, for the second. These loans were expended in purposes other than development. Date of settlement was due but it was extended to the opening of 1961. The U.A.R. made an agreement with Democratic Germany on May 7, 1958, for studying projects for the development with facilities for easy settlements and a similar agreement with Japan.

The strong economic situation of the U.A.R. will open wide doors for further agreements of the same nature.

(B) Expected Financial Resources for the Public Sector during the next ten years 1958-1967

We will follow all expected resources which can be secured in every source of those already detailed.

45. We have observed that the average rate of increase in the country development resources due to the tax arrangements and which are entered in the State Budget is 13 per cent per year.

This average yearly increase is due to the alteration in tax rates during the seven years.

If we would prophesy for the amount of increase which is expected to take place during the next ten years, we must consider the rate of increase for the past three years in which the tax arrangements were nearly steady, although certain alterations were effected. This is in addition to including a year in which agricultural products dropped down, an indication of the variable state of production in the Syrian Region to which the resources of the State are linked. This is the cause why we estimated the turn per three years.

If we estimate the average increase during these three years it will be found that it does not exceed 10 per cent. Our calculations for the next ten years will be made on the basis of this rate.

In order to avoid exaggeration in calculations, we proposed that the average rate would be 8%, i.e., we took the lowest increase for the year 1956 being 7.7%. The following table indicates the evolution in the revenue of the State Budget during 1958 to 1967:

1957	L.S.	303.3	million	12%
1958		327.6	"	
1959		353.8	"	
1960		382.1	"	
1961		412.6	"	
1962		445.6	"	
1963		481.2	"	
1964		519.7	"	
1965		561.3	"	
1966		602.2	"	
1967		654.7	"	

It will be observed from the foregoing table that the resources of the State Budget will rise from L.S.303.3 million to L.S.654.7 million with an increase of 115.8% during the next ten years with an average yearly increase of 12 per cent in proportion to the resources for 1957.

This estimate shows us that the average yearly increase during 1958-67 is lower than the average increase for 1956-57.

If we wish to compare the expected resources for the State Budget which we detailed in Section II of this Report, with the volume of the national revenue, it will be found that they vary from 14% to 17% of the National Revenue. The following table gives an indication:

Year	Expected Resources[1/] (In Million L.S.)	National Revenue	Percentage
1958	313.2	-	-
1959	353.8	2,519	14.0
1960	382.1	2,624	14.9
1961	412.6	2,751	14.9
1962	445.6	2,883	15.4
1963	481.2	3,025	15.9
1964	519.7	3,179	16.3
1965	561.2	3,345	16.7
1966	606.2	3,524	17.1
1967	654.7	3,717	17.5

[1/] On the basis of doubling the resources of half the year 1958 as previously estimated by the Ministry of Treasury.

The financial resources reviewed in the former table will be more stabilized by the following factors in support of the other factors already explained.

a. Taxes arrangements in the Northern Region will be amalgamated with those of the Southern Region in the course of the next few years. As the rate of resources of the State Budget of the Southern Region in proportion to National Revenue is 18 per cent and in view of the decision of the Southern Region to undertake the execution of a big volume of the development projects, arrangements should therefore be made for adequate resources to cope for financing these programs. The rate of resources to the National Revenue taken by the State should be raised.

b. Owing to the new era of fraternity, it is expected that the rate of taxes and fees shall be heightened in consequence to the strict supervision imposed on certain categories who were escaping from settlement of taxes.

c. The taxes arrangement will be more harmonious with the principle of progressive rates which will apparently increase the revenue.

d. The issue of the law on the recovery of the expenditures of irrigation projects, which will be executed in the course of the next ten years, from individuals benefiting from these projects, or from those who will purchase state lands benefiting by the water of these projects. All these factors will guarantee resources detailed in the table. The law in question stipulates that cost of irrigation must be recovered from those beneficiaries in the course of ten years. As the law refers to a considerable number of landowners, beneficiaries of water projects and, farmers purchasers of state lands watered by means of these projects, it is expected that the State will gain more profits in excess to those indicated in the table.

The Development Budget estimated these resources at L.S.795 million for the next ten years, with an average yearly estimate of L.S.80 million.

Resources of Petroleum Taxes during the next 10 Years

46. We have already reviewed the amount of taxation collected by the authorities for passage of petroleum across the Syrian Region. The amount of this taxation rose from L.S.8.5 million to L.S.56.8 million in 1956 consequent to the agreement with Iraq Petrolum Company.

However, the tripartite aggression on the Southern Region has caused cessation of the passing of petroleum through the Syrian Region and taxation consequently dropped down to L.S.23.8 million up to the middle of 1958.

If therefore it is wished to estimate these taxes for the next ten years, the following matters should be taken into account.

a. The power of the pipelines will be increased in the course of the next ten years over that of 1954 and 1955, the two years preceding the one in which the passage of petroleum through the Syrian Region had ceased. The quantity of petroleum passing through Syria during these two years amounted to 24.7 million metric tons.

b. It is certain that an agreement will be made with the Tapline Company having similar principles as those laid down in the Iraq Petrolum Company. It is to be noted that the quantity of oil passing through Syria for the Tapline account was 16.8 million metric tons in 1957.

c. It is expected that further pipelines will be laid down for the passing of the Persian, Iraqi, Kuwaiti and Seoudi petroleum to the Mediterranean Sea.

d. It is expected that all agreements made with the Arab countries for petroleum will be reconsidered due to the strength of the Arab Nationalism which has become visible in the Region. The petroleum taxes for the Syrian Region may also be revised, but we will not rely on this principle in the estimation of these taxes for the next years for avoiding exaggerations.

If we depend only on these two firm principles, the Syrian Region will obtain the following taxes:

Year	Taxes
1958	L.S.51 million
1959	85 "
1960	80 "
1961	85 "
1962	85 "
1963	85 "
1964	85 "
1965	85 "
1966	85 "
1967	85 "
	L.S.811 "

On the basis that the pipes of the Iraq Petrolum Company will convey 26 million tons yearly and Tapline 16.7 million tons yearly.

Resources Administrative and Public Establishments

47. We have previously explained the basis which we have followed in estimating the resources of the items of this source. We briefly mention the total resources of these items.

	1956	1957
Independent & supplementary budgets having relations with the State Budget	(In million Syrian Pounds)	
(a) Those participating in the revenue of the State Budget	5.3	6.9
(b) Those in which the revenue of the State Budget takes part	3.4	3.4
Independent and supplementary budgets which have no relation with the State Budget and other public and mixed establishments	21.5	21.5
	30.2	31.8

For the possible estimation of the items of this source, the following points shall be taken into consideration.

The majority of the administrations of this source are organizations offering public services. The resources obtained are due to services or loans at prices having a tax element. As our country during the next ten years will trend to democracy, from the economic point of view these services or loans will be given at cost price or even below. The resources of this source will not have a marked increase.

However, the resources of certain establishments will be increased during the next ten years such as the Central Bank and Latakia Port in view of the considerable investments which have been earmarked for them, especially for Latakia.

As the increase in the resources did not exceed L.S. 16 million in 1958 over 1957, it is expected that the increase during the next ten years will correspond those in this table.

Year	Resources
1958	L.S. 30 million
1959	32 "
1960	34 "
1961	36 "
1962	38 "
1963	40 "
1964	42 "
1965	44 "
1966	46 "
1967	48 "

Resources of the Municipalities

48. We have already explained that the resources of the municipalities do not differ in nature from the revenue of the State Budget. It therefore should be considered in the second place to these resources. We have mentioned the evolution in the resources which was in the following form:

1955	1956
40.1	44.9

A glance at those figures will show that the resources of the municipalities constitute a marked figure. If we compare them with the National Revenue the following rates will be arrived at:

1955	1956
2.56%	2.0%

(average 2.28).

In order to estimate the Municipalities resources during the next ten years, the following considerations should be taken into account.

a. The rate of municipality resources to the National Revenue due to imposing taxes or fees will have to be increased owing to the new trend followed by the Municipal and Rural Affairs as care for municipal and rural services are on the first plan of matters to receive the interest of the present era. Therefore, in order to ensure the expansion of these services, increase of fees and taxes should be effected for financing the services.

b. The correct rate of these resources to the National Revenue is the rate for 1956 as it is a natural year in respect of products. Furthermore the figures for the National Revenue are very near to fact as they have been estimated this year.

Depending on these two considerations, the expected evolution in the resources of the municipalities is represented in the following figures:

Year	Percentage to National Revenue	Expected Resources In Million L.S.	National Revenue In Million L.S.
1958	-	40.0[1]	
1959	2.1%	52.9	2,519
1960	2.2%	57.7	2,624
1961	2.3%	63.3	1,751
1962	2.4%	69.2	2,883
1963	2.5%	75.6	3,025
1964	2.6%	82.6	3,179
1965	2.7%	90.3	3,345
1966	2.8%	98.7	3,524
1967	2.9%	107.8	3,717

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[1] Unofficial estimate.

Resources of the Public Debt Fund

49. When we explained the resources of the Public Debt Fund previous to 1957, we stated that these do not exceed the recovery of previous loans in addition to private and public resources which we have already detailed.

As to other sources by which the Debt Fund could obtain supplementary resources, they will not be the subject of a study.

If we wish to estimate the expected resources for the Debt Fund, we have to make account of these resources. The resources which will be received during 1958-59 are:

1. Recovery of previous loans.
2. Private and public resources.
3. Investment of State bonds at administrations and public establishments.
4. Investment of bonds at financial establishments.
5. Investment of bonds at Treasury.
6. Loans of the Central Bank.
7. Investment of bonds by the public.

1. Recovery of Previous Loans.

50. We know that the country was undertaking the offering of loans to administrations and public establishments by means of the reserve funds or by loans from the Issuance of Currency Establishment and in the meantime the country undertook to guarantee private establishments for loans provided by the Issuance of Currency Establishment. When the Debt Fund was established, it took on its part all commitments on the country in this respect and had been given the right to recover loans previously granted. As a considerable part of these loans was included in the consolidated debt for which a stipulation was made in the Law on currency which gave the State the authority to raise this debt to L.S.220 million, i.e. the Public Debt Fund will not be called upon to refund these loans to the Central Bank as long as it comes under this limit, even though the law on public loan stipulated for its redemption. As the remaining loans borrowed from the State by public administrations are financed from reserve funds which are state property, although the Debt Fund is asked to refund to Treasury, we say that in view of these situations we can consider that these previous loans could serve as a long-term resource by which the Debt Fund can finance the development projects.

It is estimated that the average amount of loans to be refunded during the next ten years is L.S.11 million.

2. Public and private Resources of the Debt Fund.

51. The public and private resources will drop down after deducting the profits of the Central Bank and Latakia Port 1/ during the next ten years. This resource will not exceed an average rate of L.S. 3 million per year.

1/ It is counted within the resources of administrations and public establishments.

3. Investment of State bonds at Administrations and Public Establishments

52. Art. 17 of the Law on Public Debt stipulates that administrations and Public establishments may invest a rate of their available funds not exceeding 35 percent in the bonds of the Public Debt, the validity of which is not beyond one year.

As these administrations have deposits in the Central Bank, it was possible for the Public Fund to invest bonds amounting to 35 percent of these deposits. These deposits have evolved during the last three years in the following form:

1955	L.S.136.9 million
1956	162.9 "
1957	115.6 "

But in view of the downfall of these deposits due to the withdrawal of these deposits by the public administrations in the succeeding years for employment in financing their projects, it is possible that the value of the bonds which may be invested varies between L.S.30 and 35 million.

4. Investment of State Bonds at Commercial Banks

53. The article referred to has also allowed the imposition of investment of State bonds at these financial establishments. As these commercial banks keep available money in their safes and at the Central Bank which cannot dispose of either for ensuring its payment or due to orders from the Central Bank, it is therefore possible to invest State bonds for the value of 35 percent out of the total of available funds.

The following is a survey of these available funds during 1955-57.

Its rate as compared with sight deposits of less than one month during 1956 and 1957 was as follows:

Year	L.S. Million	Percentage to Deposits under Demand
1955	49.6	19.1%
1956	58.3	40.1%
1957	45.9	28.8%

In undergoing an estimation of these sums, we have to be careful lest we fall in exaggerations. As the Central Bank advises that the rate of available funds shall not be less than 15 percent of the value of sight deposits of less than one month, we have to assume that the rate is only 15 percent and no more.

The following gives an indication of the evolution of sight deposits in million Syrian Pounds in 1956 and 1957 1/:

Year	L.S. Million	Percentage to National Revenue
1956	145.4	7.0%
1957	159.8	7.4%

1/ We only mentioned these two years for their correct statistics.

In order to realize the efficiency of the Debt Fund in loans in this way we must make a fore-estimate of the volume of sight deposit in the course of the next ten years.

Evolution of sight deposits are subjected to the following factors:

a. Desire of the public in depositing their money in commercial banks.

b. Expanded use of cheques which helps commercial banks in creation of circulating money.

c. Increase in the National Revenue followed by the increase of money lumps, the main elements of which are the sight deposits. To predict the amount of realization of the two first elements is encircled with difficulties, although it is certain that those two elements will give positive results in that the wish of the public for depositing their assets will be increased resulting in the prevalence of cheques.

If we estimate the amount of these deposits during 1956 and 1957 in proportion to the National Revenue during the same years, the rate will be 7% and 7.4% respectively. If we introduce the first two elements which will have positive results during the next ten years, we will not be exaggerating that the volume of deposits in Syrian Pounds will be 8% of the volume of National Revenue.

Sight Deposits of Less than One Month
in Million Syrian Pounds

1958	-
1959	201.5
1960	209.9
1961	220.1
1962	230.6
1963	242.0
1964	254.3
1965	267.6
1966	281.9
1967	297.4

If we take 15% of the volume of deposits, we will obtain our liquid funds as arranged by the Central Bank, provided that the amount of deposits will not drop. As the Public Debt Fund could borrow 35% of these liquid funds, its borrowing power will be in the limit of these sums.

Year	Deposits at Sight for less than one month	Liquid Funds	35% of the Liquid Funds	Borrowed Funds
1958	-	-	9.0	9.0
1959	201.5	30.2	10.5	1.5
1960	209.9	31.4	11.0	0.5
1961	220.1	33.0	11.5	0.5
1962	230.6	34.5	12.1	0.6
1963	242.0	36.3	12.7	0.6
1964	254.3	38.1	13.3	0.6
1965	267.6	40.1	14.0	0.7
1966	281.9	42.2	14.7	0.7
1967	297.4	44.6	15.6	0.1
				15.6

5. Investment of State Bonds at Treasury

54. As the reserve funds resulting from excess of revenues over expenditures in budget were exhausted in granting loans to administrations and public establishments and as its recovery is entrusted to the Public Debt Fund, of which we have calculated the resources in this business, on the consideration that all these loans were granted by the Ministry of Treasury to administrations for the Public Debt Fund account. It is rather improbable that no surplus in the State Budget for future years shall be secured owing to the undertakings of the State for the execution of voluminous development projects, there will be no funds available in the Treasury except the deposits of individuals, beside some other money emanating from excesses in revenue over expenditures in certain months.

As it is impossible to estimate this money, we have abstained from doing any attempt.

6. Resources which can be collected from the Central Bank

55. We have already observed that Syria and Lebanon Bank or (The Central Bank of Syria) was undertaking the grant of loans to the Government Sector during the preceding ten years either for productive or non-productive purposes.

As the Syria and Lebanon Bank - as is the present case of the Central Bank of Syria - is undertaking to provide loans either through issuing currency of which it is authorized or through public deposits sent by the Treasury, administrations or the public establishments, which are reloaned to the Government Sector via the commercial branch of this bank.

We have also explained that the average yearly amount of loans of the Issuance of Currency Establishment or the Central Bank during the last 9 years 1948-1956 was L.S.26 million and the net average for 1947-1957 was L.S.12 million.

A glance at the general price level during those years shows that there were no signs of inflation, exception 1949 and 1950, as the Issuance of Currency Establishment offered loans for non-productive purposes for comparative high amounts, otherwise fluctuations of prices registered by basic prices for wholesale or for exports or imports were not emanating from any currency reason due to economic, internal or external policy. It can be said that the Issuance of Currency Establishment had provided the Public Sector with reasonable amounts without causing any traces of destructive inflation.

We will now attempt to estimate the capacity of the Central Bank in providing the Public Sector with loans during the next ten years.

No doubt this estimation is encircled with difficulties. Nevertheless we will make an estimate of the capacity of the Central Bank in providing these loans without causing inflationary reactions.

We shall depend on the years 1955, 1956 and 1957 as a scale for our estimation because they are close to the years subject of estimation and secondly as they constitute a productive turn in the Syrian Region as 1955 was a year of barreness and 1956 and 1957 were years of abundant production.

In estimation we will rely on the following principles:

a. Knowledge of the Public Debt share (Public Debts and loans) during the three years in proportion to the total assets in the Central Bank of Syria which constitute covering all commitments under demand. Similarly, the same thing applies to the two elements, gold and the foreign currency, loans offered to the Public Sector in the form of commercial, industrial and agricultural loans.

b. Deciding the share of every element of liabilities in the Central Bank. Money papers, public deposits and bank deposits which constitute the current liabilities of the bank under demand in proportion to the volume of the National Revenue during the three years in question.

c. Making of an average rate (constant and variable) for every element of liabilities under demand which could be taken as basis for evolution of the elements of the current liabilities during the next ten years.

d. Making an average rate of the elements of the assets of the Central Bank of Syria, on the top of which is the Public Debt for employment in the evolution of these assets and also the amount of debts which could be provided by the Central Bank during the next ten years.

All these on the basis that the rate of loans offered by the Central Bank in proportion to the total assets remained the same. Furthermore its position during the preceding three years - in spite of the Public Sector will have to share in production and barter during the next ten years to an extent which cannot be compared with its position in the former three years.

Share of the Public Debt in the Assets of the Central Bank which meet its Liabilities under Demand

56. The elements of assets of the Central Bank meeting liabilities on demand constitute the following amounts.

End of Year	Gold and Foreign Currency	Commercial, Industrial & Agricultural Loans	Debts and Loans (Public Debt)1/	Total Assets Liabilities Under Demand
1955	128.3	131.2	265.4	524.3
1956	219.2	168.0	287.1	674.3
1957	187.1	174.9	287.1	649.1

The following are the rates of these elements to total assets:

1955	24.4%	25.2%	50.4%	100
1956	32.6%	24.9%	42.5%	100
1957	28.9%	26.9%	44.2%	100
	85.9	77.0	137.1	
Yearly Average	28.6%	25.7%	45%	

1/ **With the exception of short-term loans forwarded to the Treasury in accordance with paragraph 2 of Article 35 of the Law on Currency, such loans being settled before the termination of the financial year.**

From this it will be found that the assets of gold and foreign currency vary from 24.4% to 32.6% and its yearly average is 28.6% but the commercial, industrial and agricultural loans represent an average of 25.7% and eventually the Public Debt 1/ constitute a rate of 50.4% in 1955, 42.5% and 44.3% for the other two years.

In order to predict the amount of participation of the Central Bank in lending the Public Sectors long-term loans for financing the development projects during the next ten years, we imagine that the rate of elements of the assets during the next ten years would be the same as those of the past three years, viz:

30% for gold and foreign currency
20% for commercial, industrial and agricultural loans
50% loans for the Public Sector

for the following reasons:

a. We have comparatively maintained the liquidity of assets set for recovery which the Central Bank consider as the fundamental basis for issue to be able to make the currency circulation volume flexible towards the evolution of the National Revenue.

The rate of liquid assets (gold, foreign currency and loans to the Private Sector) 55% of the total elements of recovery. We reduce this rate to 50% only for the next ten years.

b. The rate of 30% for gold and foreign currency which is the minimum rate stipulated in the basic currency organization, is a reasonable rate for the next ten years, for the following reasons:

1. The development projects stipulated in the Budget for the economic developments and the industrial program - after the execution of a part of them - will render production more stable (expansion of village area and increase in the share of the national industrial revenue. In consequence, the desire for the constant increase in the gold element and the foreign currency to meet possible reductions in exports and maintaining the rate of imports, will be minimized.

2. The future development programs (Development Budget and Industrial Program) have secured the greater part of our needs for foreign currency in virtue of loans (Soviet, West German and Japanese loans).

3. The rate of 30% is considered as a high rate if we take into account the state which will be taken by the Northern Region for economic developments with more participation on behalf of the Central Bank in financing the Public Sector.

1/ The Public Debt is constituted of:

	L.S. Million
1. Consolidated debt	
Loans without interest &revalorization of gold	4.9
French property	17.5
Loans to the Ministry of Defence	60.3
Loans to public establishments	81.4
Loans to nationalized establishments	13.0
Loans to municipalities	11.8
Loans to Latakia Port	19.6
2. Against reduction in the valuation of the Franc	65.8
3. Against subscription to the International Monetary Fund and the International Bank for Reconstruction and Development	4.1
	287.0 *

* Figures add to: 278.4.

c. As to the rate of 20% allotted for agricultural, industrial, and commercial loans representing debts, loans, and rediscount of bills of exchange submitted to commercial banks, we believe they are sufficient as in past years they constituted one-third of the volume of funds presented by the commercial banks to the national economy, as shown in the following table:

Year	Total Amount of Debts and Loans offered by the Commercial Banks 1/	Debts, Loans & Discount of bills of Exchange submitted by the Central Bank to Commercial Banks 1/	Rate of Refinancing at the Central Bank
1955	462.2	51.1	11.0%
1956	487.3	167.9	34.6%
1957	533.8	174.9	32.7%

1/ In Million Syrian Pounds.

If we know that the commercial banks did not invest all their resources in lending, in addition to resorting to the Central Bank, and that they keep rates of liquid funds higher than those recommended by the Central Bank, we will therefore assume that the rate which we suggested for this element of assets is logical. The following table indicates amounts of non-employed funds.

Year	Resources of Commercial Banks	Total Loans by Commercial Banks	Difference Unemployed
	- - -(in Million Syrian Pounds) - - - - - -		
1955	583.9	462.2	121.7
1956	562.0	487.3	74.7
1957	585.8	533.8	52.0

d. The rate in respect of the Public Debt to total assets against current liabilities under demand reached 45.7%. We have intended to raise it to 50% for the following reasons:

1. We are in favor of the proportion of liquid assets in cover which have coped with contingent eventualities and have been approved as appropriate to the Syrian economy. During the three years these rates varied between 42.5% and 50.4% without any signs of destructive inflation having appeared on the economy.

2. The main duty of the Central Bank is to harmonize the evolution of the National Revenue with evolution in means of payment. As the commercial banks have limited power in creating means of payment by bills of exchange, the greater part of the task devolves to the Central Bank, in the creation of paper-money and a portion of the bills of exchange.

If an increase occurs in the National Revenue, the Central Bank is compelled to increase the current liabilities on demand, especially the paper-money. This increase in means of payment will be distributed on elements constituting assets under demand in various rates (gold, foreign currency, loans to the Public Sector and loans to the Private Sector). As regards the effect of this increase of economy, after securing the element of liquidity of assets - on the supposition that the Public Sector will employ this increase in means of payments for financing its development projects - there will be no difference had a considerable part of the increase gone to the Public Sector and a smaller part to the Private Sector should the economic evolutions require this procedure. This is the present situation in the Syrian Region, where huge development projects are being undertaken, all of which are thrown on the shoulders of the Public Sector, especially as increase in other means of payment - the bills of exchange - will be in favor of the Private Sector.

Share of Every Element from the Current Liabilities of the Central Bank

57. In order to predict for the evolution in assets against current liabilities which will be available in the Central Bank during the next ten years, evolution in liabilities under demand should be considered beforehand which in fact will limit the volume of the assets.

The elements of the liabilities under demand are composed of the following:

1. Money-paper
2. Public deposits
3. Deposits of resident and non-resident banks

The volume of these elements during the past three years 1955-57 is represented in the following figures:

Year	Money Paper 1/	Public Deposits	Bank Deposits	Total Liabilities on Demand
		(In Million Syrian Pounds)		
1955	327.0	136.9	19.3	493.2
1956	426.8	162.9	38.8	638.5
1957	472.9	115.6	40.9	629.4

1/ Net.

As the volume of means of payment are closely linked to the evolutions in the gross National Revenue and owing to the fact that the Central Bank as a security valve to total means of payments in circulation, it is interesting to extract the rate for each element to gross National Revenue during the past three years.

Year	Paper Money	Public Deposits	Bank Deposits	Total Liabilities on Demand	Gross National Revenue
1955	19.7%	8.3%	1.1%	29.1%	1,650
1956	19.9%	7.9%	1.7%	29.5%	2,200
1957	21.1%	5.6%	1.2%	28.3%	2,312
Total	60.7%	21.8%	4.0%	86.9%	
Average	20.3%	7.3%	1.3%	29.0%	

From this table it will be found that the volume of the paper-money constitutes a rate varying from 19.7% to 21.1% with an average rate of 20.3%, the public deposits vary from 5.6% to 8.3% with an average rate of 7.3% and the bank deposits varying between 1.1% and 1.7% with an average of 1.3%, while the average volume of liabilities on demand represents 29% of the gross National Revenue.

Should we desire to estimate the evolution of the liabilities on demand during the next ten years, we have adopted the following rates for the elements constituting these liabilities:

1. 21% from the gross National Revenue for paper money.
2. A rate starting from 4.6% of the gross National Revenue at the beginning of every year of the ten and ending at a rate of 2.6% in the last year for public deposits.
3. A rate of the gross National Revenue starting at 2% at the beginning of every year of the ten and ending at 3% on the ultimate year for bank and other deposits.

The reason which made us raise the rate of the paper money by 0.4 over the average for the past three years is due to the probability that the volume of the public deposits may drop during the next ten years. The Central Bank must cope with this decrease in liabilities by way of paper money.

As regards the public deposits, it is expected to be decreased due to the depositing administrations desiring to employ them during the next ten years. These deposits cannot be liquidated entirely as it is certain that the relative administrations will deposit their surplus money in the Central Bank in addition to the authorization for the Bank to create bills of exchange for lending the Public Sector. In view of these factors, we have lowered its rate from 4.6% to 2% of the gross national value.

The rate of the bank deposits are expected to rise as there had been a trend of progressive increase during the last three years in the deposits of resident banks, as deposits rose from L.S.19.3 million in 1955 to L.S.22.6 and L.S.22.7 million in 1956 and 1957 respectively. On the other hand it is also expected that deposits of non-resident banks will be slightly increased owing to the future activities of the Central Bank.

The following table illustrates the evolution of every element of current liabilities on demand during the next ten years and the total of these liabilities according to the rates in the table.

Year	Paper	Rate	Bank Deposits	Rate	Bank Deposits & Others	Rate	Total Liabilities on demand	Gross National Revenue
1958	-		-	4.6	-	2.0	7.0	-
1959	529.0		105.8	4.2	52.9	2.1	787.7	2519
1960	551.0		105.0	4.0	57.7	2.2	713.7	2624
1961	577.7		104.5	3.8	63.3	2.3	745.5	2751
1962	605.4	21%	103.8	3.6	69.2	2.4	778.4	2883
1963	635.3		102.8	3.4	75.6	2.5	813.7	3025
1964	667.6		101.7	3.2	82.7	2.6	851.9	3179
1965	702.5		100.3	3.0	90.3	2.7	893.1	3345
1966	740.0		98.7	2.8	98.7	2.8	937.3	3524
1967	780.6		96.6	2.6	111.5	3.0	988.7	3717

58. Now as we could make an account of the total liabilities on demand which limit the assets which can be put to cover against these liabilities, it is possible to predict the evolution in the distribution of these current liabilities during the next ten years according to the rates which we had adopted for those elements.

The following table indicates this distribution.

Evolution in the Distribution of Current Liabilities in the Central Bank - 1958-1967

Year	Total Current Liabilities		Gold and Exchange		Private Loans		Public Debts
1958	-	30%	-	20%	-	50%	-
1959	687.7		206.3		137.5		343.8
1960	713.7		214.1		142.7		356.8
1961	745.5		223.6		149.1		372.7
1962	778.4		233.5		155.6		389.2
1963	813.7		244.1		162.7		406.8
1964	851.9		255.5		170.3		425.9
1965	893.1		267.9		178.6		446.5
1966	937.3		281.1		187.4		468.6
1967	988.7		296.6		197.7		494.3

It is interesting to mention here that the evolution in the volume of assets elements is below the fact as the total assets are constantly in excess to the current liabilities on demand as already explained in previous reports for the three years 1955-1957 for reasons which we find no necessity to state. As we could estimate the volume of assets elements by the aid of volume of liabilities, our estimation must be less than the fact.

In brief, the Central Bank could, during the next ten years, raise the amount of debts and long-term loans from L.S.287.1 million in 1957 to L.S.494.4 million, with an increase of L.S.207 million and an average increase of L.S.20 million without any inflationary reactions to the economy.

We ought to allude to our previous assumption when limiting the rates of assets elements on demand which arrived at the amount of debts which can be granted to the Public Sector during the next ten years. The rates which we adopted were presumed on the basis that the Public Sector would undertake a feeble share in the public economic activities as was the case in 1955-1957 whereas we will put on the charge of the Public Sector a significant portion of the economic activities during the next ten years (Projects of Development Budget and Industrialization Program). This state compels us to redistribute the rates in favor of the Public Sector.

Finally we have to mention that as a result of the previous analysis necessity will be pressing for the amendment of Article 35 of the basic exchange regulations to enable the Central Bank in offering loans which we alluded to and which are not permissible by existing stipulations as well as other stipulations contained in these regulations in order to harmonize the currency regulations with the new development policy.

Resources coming from the Exploitation of Petroleum in Karatshuk

59. In addition to previous resources, we have to mention that the discovery of naphta in the Northern Region will enable us to obtain additional financial rources irrespective of the method through which these resources will come (a share of exploitation profits by a Government Organization), the resources coming from petroleum exploitation are certain and confirmed.

It can be relied on the Report on the Five-Year Industrial Program for the Northern Region estimating the resources of this source. The report estimated that possibly a sum of L.S.65 million could be obtained from the exploitation of these petroleum fields as from 1963.

The metal wealth is now being surveyed. It is expected that the geological map will be completed in 1963. In this date studies and explorations after discovered metals will also be accomplished. We have to expect additional resources in the course of the last four years from the exploitation of the discovered metals. No estimate for those resources can be made before the completion of the relative studies.

(C) Estimation of Administrative Expenditure & Private Services Expenditures in the Government Sector during the next ten years

60. Following the estimate of the expected public resources during the next ten years constituting the financial capacity of the Northern Region, we will endeavor to distribute these resources on the various needs of expenditures during the years in question in order to determine the volume of funds to be assigned for the economic developments.

It can be said that all sorts of expenditures shall not exceed the following categories:

1. Expenditures required for Government apparatus for home and external security, all public health services, education and public instruction, cultural, municipal, social and economic affairs. The various ministries and administrations whose budgets are incorporated in the State Budget, are entrusted to execute these services.

2. Expenditures required by the Independent and Supplementary Administrations, establishments and public administrations to warrant public services and exercise some economic activities. The various independent and supplementary administrations, establishments and public administrations, are entrusted with carrying out these services and activities.

3. Expenditures required by the municipalities for warranting all municipal services. The municipalities are charged to carry out these services.

4. Expenditures required for the execution of development projects, not coming under expenditures of the above three categories. The establishment of the Economic Development is entrusted to carry out these projects.

Total Financial Resources for the State Sector

1958 - 1967

					From the Public Debt Fund					
Year	From State Budget	From Petroleum Taxes	Independent & Supplementary Public Ests.	From Municipalities	Recovery of Debts	Public, Private Resources	Bonds at Public Adm.	Commercial Banks	Central Bank	Exploitation of Petroleum from Karatshuk	Total Public Resources.
1958	313.3	51 1/	30.0	40.0	11	3	35	9.0	20 2/	-	512.2
1959	353.8	85	32.0	52.9	11	3	-	1.5	20	-	559.2
1960	382.1	80	34.0	57.7	11	3	-	0.5	20	-	588.3
1961	412.6	85	36.0	63.3	11	3	-	0.5	21	63	695.7
1962	445.6	85	38.0	69.2	11	3	-	0.6	21	63	736.4
1963	481.2	85	40.0	75.6	11	3	-	0.6	21	63	780.4
1964	519.7	85	42.0	82.6	11	3	-	0.6	21	63	827.9
1965	561.3	85	44.0	90.3	11	3	-	0.7	21	63	879.3
1966	606.2	85	46.0	98.7	11	3	-	0.7	21	63	934.6
1967	654.7	85	48.0	107.8	11	3	-	0.9	21	63	994.4
Total	4,730.4	811	390.0	738.1	110	30	35	15.6	207	441	7,508.4

1/ The resources of this source may exceed these figures on account of the agreement with the Iraqi Naphta Company. The quantity transported across the pipelines will be increased to 30 million tons.

2/ We have distributed the sum of S. L. 207 million on the various years in a mathematic average. We left to the discretion of the Central Bank the annual credits to be provided to the Public Sector provided that the total for the ten years shall not exceed S. L. 207 million.

N/ B.

It is of interest to mention that the volume of this kind of expenditures limits the volume of public investments during the next years. In fact the expenditures of the above three categories include a part of financing production, machinery, apparatuses, buildings, gardens, dispensaries, hospitals, roads, etc. This is no doubt a kind of investment, but the purpose of these investments lie in securing social, municipal and health services for elevating the level of these relative administrations and not for increasing the productive power of articles for consumption and other productive commodities in a direct form, as is the case of expenditures for category 4.

State Expenditures for Ensuring Public Services during next ten years

61. It is difficult to limit the amount of expenditures required for the State apparatus during such a long period of ten years. Nevertheless we have endeavored to work out this estimation depending on these principles.

1. We have detailed the estimation of actual expenditures assigned for the next ten years for the State systems and those required for the National Defence and have studied its relative evolutions during the last four years 1954-1957 and could extract rates which we subsequently altered in the light of expenditures for the next years.

The actual expenditures allotted to warrant the proper functioning of the State apparatus include all actual expenditures for the ministries and other administrations, the budgets of which are incorporated in the State Budget as well as expenditures required for the purchase of tools and machinery for paving roads, construction of hospitals and other Government buildings and airports. Generally speaking, all expenditures required to warrant the proper functioning of its relative services. No exceptions were made for the actual expenditures except those relating to the exceptional budget for financing projects detailed in the budget itself or those for the Public Debt Fund for redemption of debts.

By this inclusion, we have guaranteed for all these expenditures all credits which could be assigned for old and new ministries to perform their present and future services. If a new budget is introduced for financing these services and remained incorporated in the figures for the State Budget, our estimate for the expenditures required for the Government apparatus include the expenditures for the State apparatus plus financing the services. This category of expenditures shall be defined as expenditures for State apparatus and warranting all public services.

2. As to the National Defence Expenditures, we have taken into account the actual expenses of the Ministry of War either provided by State Budget, exceptional budget or other resources.

3. We have considered the actual expenditures, approximately as those expended for warranting the proper functioning of the State apparatus and also for warranting the services during 1956 as basis for calculations in estimating this category of expenditures for the next ten years. The cause is attributed to the fact that this sum reached L.S.194 million in 1956 while it reached L.S.182 million in 1957. We took the figure for 1956 for fear of exaggeration in pressure of these expenditures.

4. We have estimated the average yearly increase in these expenditures during the next ten years at 6 percent. This increase appears small in proportion to the expected expansions in health, social, municipal, cultural services during the next years to keep pace with the new era. The increase, however, does not exceed this rate, otherwise these

services will absorb the greater part of state resources, in which case the accomplishment of the development projects will be utterly impossible during the next years.

5. We have fixed the level of expenditures for the National Defence during the next ten years on the basis of those for 1957 including those financed by the exceptional budget. We have raised the rate for the last seven years over those for the three first years on account of the desire for purchase of weapons and stabilizing armaments.

If it is intended to increase these figures, the development projects will greatly suffer as they will absorb almost all of the State resources.

The following table indicates the evolution of these two categories of expenditures during the next ten years on the basis already explained.

Year	Expenditures for State Apparatus, Public Services & National Defence
1958	391
1959	403
1960	416
1961	440
1962	454
1963	469
1964	485
1965	502
1966	520
1967	539
	4,619

Expenditure Investments to Independent & Supplementary Administrations and to Public Establishments

62. When we surveyed the resources of this category of administrations, we stated that our estimations were only based on resources which have the descriptive nature of taxes or resources due to sale of commodities or services at semi-monopolistic prices, or resources from profits of monopolistic quality. We only aim at giving an indication of the amount of efficiency of these administrations for investments.

These personal resources may be utilized in the settlement of former debts [1] loaned from the State for financing the expansion of its services or from extending its investments.

No surplus in these resources are expected for financing projects other than their own. On the contrary, these administrations may be in need of further long-term loans which possibly could not be had at banks for the sake of enlarging their activities as is the case of the Water and Electricity Companies, and Latakia Port. For this reason we have added to their personal resources for the next ten years the sum of L.S.25 million at an average of L.S.2.5 million per year.

It may appear that this figure is small in comparison to the expected expansions in those administrations, but it is impossible to provide more lest the more vital development projects suffer. The following table indicates the amounts of investment expenditures necessary for all administrations.

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[1] These settlements are considered as resources for the Public Debt Fund.

Year	In Million Syrian Pounds
1958	32.5
1959	34.5
1960	36.5
1961	38.5
1962	40.5
1963	42.5
1964	44.5
1965	46.5
1966	48.5
1967	50.5
	415.0

Investment Expenditures for Municipalities

63. As already explained the resources of these municipalities will be markedly increased as they are of a monopolistic nature and their evolution is linked to the National Revenue which is progressively increasing.

We are of opinion that their expenditures should solely depend on their expected revenues without calling for any other of the State resources. If it happens that the municipalities are compelled to extend their services beyond their own financial capacity, they have to impose new taxes for covering these expenses.

The following table shows the amount of the investment expenditures.

Year	In Million Syrian Pounds
1958	40.0
1959	46.9
1960	52.4
1961	58.6
1962	65.7
1963	73.5
1964	82.2
1965	92.1
1966	103.2
1967	115.6
	730.2

(D) Estimation of the Development Expenditures in the Government Sector during the Next Ten Years

64. Now, as we could estimate all future public expenditure for the State during the next ten years, we are able to know the financial efficiency of the State in carrying out the development projects during the same period.

We have also been able to survey all the State resources during this period, we have only to take away all expenditures for the three categories which we have already estimated, viz:

1. Expenditures of the State apparatus and services.
2. Expenditures for the supplementary and independent administrations and public establishments.
3. Municipality expenditures.

In order to know our available money funds for every of the ten succeeding years for the object of the development projects which we wish to accomplish, the following table gives full indication of these funds.

EXPECTED FINANCIAL RESOURCES & EXPENDITURES - 1958-67
Administrative And Services

Year	Total financial Resources 58-67	Expenditures of Ministries & Administrations entered in State Budget	Expenditures of Independent & Supplementary & Nationalized Establishments	Expenditures of Municipalities	Total Non-Productive Expenditures of the State	Surplus of State Financial Resources over Administrative & Services Expenditures	
1958	512.2	391	32.5	40.0	463.5	+ 48.7	Maximum financial efficiency in the Syrian Region
1959	559.2	403	34.5	46.9	484.4	+ 74.8	
1960	588.3	416	36.5	52.4	504.9	+ 83.4	
1961	695.7	440	38.5	58.6	537.1	+ 158.6	
1962	736.4	454	40.5	65.7	560.2	+ 176.3	
1963	780.4	469	42.5	73.5	585.0	+ 195.4	
1964	827.9	485	44.5	82.2	611.7	+ 216.2	
1965	879.3	502	46.5	92.1	640.6	+ 238.7	
1966	934.6	520	48.5	103.2	671.7	+ 262.9	
1967	994.4	539	50.5	115.6	705.1	+ 289.3	
	7,508.4	4,619	415.0	730.2	5,764.2	1,744.2	

(E) Comparison between the financial efficiency for the Public Sector in financing development projects and the credits inserted in the Development Program recommended for the Syrian Region during 1958-1967

65. We were able to make an estimation of the following elements:

a. Public resources of the Syrian Region
b. Non-development expenditures for the Syrian Region
c. Development expenditures for the Syrian Region

In respect of (c) we were able to discover the maximum financial efficiency for the Syrian Region. We say maximum because we imagined in fixing certain non-supplementary expenses restrictions calling for much efforts for maintaining their levels as we fear that these restrictions may break down and the non-development expenditures will be freed and get to rise. This will render accomplishment of huge development programs, referred to in the Economic and Industrial Programs, impossible to realize.

We are justified to inquire as to whether these recommended development programs in excess or below the maximum public financial efficiency.

In order to clarify this, we have to refer to all the Development Program Expenditures contained in the economic development budget and the expenditures for the Industrial Program.

Expenditures in the Economic Development Budget

66. It is shown in the Budget for Economic Development that the financing of this grand program will be undertaken by the following means:

1. By means of the internal financial resources for the Syrian Region.

2. By means of the Soviet loan.

As we are now concerned in the internal public resources, we will extract the necessary expenditures required for the next ten years and which are collected for internal financing sources.

Expenditures taken from Internal Public Resources in Million Syrian Pounds

Year	Internal Expenditures Including interests on Debts 1/	Settlement of Debt Installments	Total
1958	65.0	-	65.0
1959	117.7	-	117.7
1960	216.3	-	216.3
1961	191.5	1.8	193.3
1962	216.0	8.2	224.2
1963	226.7	9.0	235.7
1964	230.5	10.9	241.4
1965	124.7	45.5	170.2
1966	111.5	45.0	156.5
1967	104.5	44.6	149.1
Total	1,604.4	165.0	1,769.4

1/ The local expenditures amount to L.S.1,506 million only, whereas payments for foreign debts are L.S.83.4 million and payments for local loans L.S.15 million.

The previous table indicates that expenditures and payments which the general authorities have to secure from the State financial resources for the execution of projects detailed in the Economic Development Budget, amount to L.S.1,769.4 million.

These amounts of expenditures are the minimum levels for internal expenditures for this program. It is customary that for such a program a certain sum from the State resources must be set aside as reserve for payment of installment of internal debts. This sum, amounting to L.S.389.5 million, as estimated in the budget for development, is not included in the previous table.

Industrial Program

67. It is regretted that the Industrial Program as approved and published did not give any indication as to the means for financing this program. In making estimates for financing this program we will follow the principles adopted by the Southern Region in respect of financing their Five-Year Industrialization Program.

The object of these estimations is to arrive at the amount of funds which will fall on the shoulder of the State Sector for inclusion to the expenditures of the Development Program which we have previously recorded, in order to have full knowledge of the total expenditures for the sake of making a comparison between these expenditures and the maximum public financial efficiency for this Region.

Our estimations for the internal expenditures which will be borne by the General Authorities are based on the following principles:

a. The internal expenditure will constitute 60% of the total expenditures for the Industrial Program amounting to L.S.510 million, out of which 40% will be of hard currency.

b. Insuring foreign currency will be based on the debts provided by the Soviet Union, Western Germany and Japan.

c. The financing of the petroleum and mining industries will be borne by the State Sector.

d. Financing of the transforming industries will be borne by the Private Sector in respect of internal expenditures required by these industries and by the Public Sector re-expenditures in hard currency during establishment, so that the Private Sector will resume to refund these expenditures to the Public Sector as soon as production has been started.

e. The financing of the productive power and the vocational training will be borne by the State Sector.

f. The financing of the reserve amounting to L.S.60 million will be borne by:

   1. The State and Public Sectors in comparative rates to the relative expenditures of the said program, in respect of expenditure reserves.

   2. The Government Sector only for public utilities' reserves.

In compliance with these principles, the following table could be obtained:

Industries	State	Private	Total	State	Foreign	Total	Grand Total
	(- - - - - - - - -In Million			Syrian	Pounds - - - - - -)		
Petroleum	159.7	-	-	106.5	-	-	-
Productive Capacity Vocational Training	12.3[1]	-	-	2.0	-	-	-
Transforming Industries	-	100.1	-	66.8	-	-	-
Mineral	1.4	-	-	1.0	-	-	-
Total	173.4	100.1	273.4	175.8[3]	-	-	-
Reserves							
1. Expenditures	15.0	3.8	-	6.2	-	-	-
2. Public Utilities	28.2[2]	-	-	7.0	-	-	-
Total	216.6	103.9	320.9	189.0	-	189.0	509.5

[1] On the basis of 85% in Syrian Pounds

[2] On the basis of 80% in Syrian Pounds

[3] Figures add to: 176.3

From the above table it will be found that L.S.216.6 million will be borne by the Government Sector which will be provided by the public financial resources of the State and L.S.189 million in hard currency. At the same time L.S.103.9 million will be borne by the Private Sector.

Expenditures of the State Sector in million pounds for the Industrial Program are not confined to internal expenditures during the period of the Program but payments connected thereto should be added representing settlements of foreign debts and their installments, as we have followed in estimating expenditures and payments of the Government Sector for the Development Program. It is regretted that the Industrial Program did not mention anything in this concern, it is therefore expected that an equivalent proportion of not less one-third of the foreign debts will be refunded for interests and installments during the Five Years 1959-1965 which values at L.S.63 million.

If we add these payments to the internal expenditures borne by the Government Sector the results are indicated in the following table:

Year	Internal Expenditures	Interest and Instalments	Total
	- - - - - In Million Syrian Pounds - - - - -		
1958	-	-	-
1959	43.4	12.6	56.0
1960	43.4	12.6	56.0
1961	43.4	12.6	56.0
1962	43.2	12.6	55.8
1963	43.2	12.6	55.8
	216.6	63.0	279.0

Now as we could arrive at:

a. The financial efficiency for financing development projects.

b. Credits allotted in the Development and Industrial Programs we have to undergo a comparison between these two elements in order to be familiar with the present position.

The following table illustrates this comparison.

Year	Maximum financial efficiency for financing Development Projects 1958-67 (Public Sector) (1)	Total Expenditures & Payments in LS fixed in Economic Development Budget 1958-1967 (2)	Total Expenditures & payments in LS expected to be expended in the Industrial Program 59-63 (3)	Total expenditures in Columns 2 and 3 (4)	Difference between 1 and 4 (1-4) (5)
1958	48.7	65.0	-	65.0	- 16.3
1959	74.8	117.7	56.0	173.7	- 98.9
1960	83.4	216.3	56.0	272.3	-188.9
1961	158.6	193.3	56.0	249.3	- 90.7
1962	176.3	224.2	55.8	280.0	-103.7
1963	195.4	235.7	55.8	291.5	- 96.1
1964	216.2	241.4	60.0 1/	301.4	- 85.2
1965	238.7	170.2	60.0 1/	230.2	+ 8.5
1966	262.9	156.5	60.0 1/	216.5	+ 46.4
1967	289.3	149.1	60.0 1/	209.1	+ 80.2
	1,744.3	1,769.4	519.6	2,289.0	-544.7

1/ There is no Industrial Program for the last four years so we assumed that the average investment is L.S.60 million with payments of installments and interests of debts. This assumption is no doubt below the fact.

68. On analyzing the previous table, the following remarks will be made:

1. The approved funds for the Development Program and the Industrial Program for the next 10 years are beyond the Public Sector efficiency. Whereas the maximum efficiency of this Sector during the year under study is L.S.1,744 million, there are fixed credits in the two programs amounting to L.S.2,289 million, with an increase of L.S.544 million. This difference is the minimum for the expected decrease for the following factors.

   a. We have imposed liabilities on the Public Sector during the next ten years for the Industrial Developments amounting to L.S.519.6 million, whereas it is expected that this Sector will participate in a greater share as there are many industries run by private capitals and the Public Authorities desire to leave them independent for political, economic or social reasons.

   b. If the State restricts expenditures for the administrative apparatus required for vital services, such as social services and national defence, these restrictions may not be effective and fail, and consequently shortage in financing the development projects will be greater than the figure estimated.

c. If we impose these restrictions on the expansion of administrations and public establishments which offer services to the public, it may happen that this imposition will not be realized either for the intent of the authorities for expansion or due to the desire of the public for this expansion. The figure for the development projects will consequently drop.

2. The maximum estimation of the financial efficiency for the Public Sector at L.S.1,744 million during the next ten years, assuming that the State will obtain an annual resource amounting to L.S.63 million as net revenue from the exploitation of naphta from the Karatshuk oilfield strating from 1961. Therefore if we desire to reach this gross volume of revenue, i.e., L.S.1,744 million, the project for the exploitation of naphta at Karatshuk should be the first of the development projects.

3. Before coping with this deficit, one or more of the following measures must be taken:

a. Development Program and Industrial Program. Incorporation of the two programs in one so that the investment expenditures for this program shall be equivalent to the financial efficiency of the Sector but the principle of priority should be followed in selecting and executing projects which shall be inserted in this unified program.

b. Resorting to internal debts from the Private Sector through the Public Debt Fund for execution of the two programs together. In this respect steps should be undertaken for encouraging private capitals for investment in the development projects.

c. Taking advantage of the available incomes of the public projects.

d. Resorting to unconditioned foreign debts for coping with expected deficiencies in executing both programs, provided that the efficiency of the country in borrowing and settlement of instalments and interests should be studied. An agreement has been made with West Germany on May 7, 1958.

SECTION B

AN ATTEMPT FOR DESIGNING AN ECONOMIC PLAN FOR THE SYRIAN REGION FOR 1958-1967

The main object which led us to devise a plan for the economy of the whole Region is due to our desire that the development projects prepared for the next ten years must be in conformity with the investment efficiency of the Region and also to be in harmony with the objectives as laid down in the plan. Past experience proved that the development projects having no plan for the whole economy for pursuance, were unsuccessful even though means for financing have been specified. The exceptional budget for the Region made in 1955 for seven years is a strong proof, as it did not realize anything of significance for these projects. This was due to the reason that these projects were organized on the basis of constructional projects requiring enormous credits which the Public Sector was unable to afford. The whole thing is attributed to the absence of a Development Plan.

On the other hand, it is impossible at the present time to lay down a Development Plan which could deal with the whole Syrian economy in all the Sectors and branches of Sectors, as this business calls for a big productive apparatus well conversant with planning affairs. We have been satisfied for making a frame for a plan for the whole economy of the Region on the grounds that complementary studies will have to be made in the light of statistics which must immediately be accomplished.

The Plan deals with:

1. Limiting the volume of investments for all the years of the Plan and for each single year within the efficiency of the Northern Region.
2. Distribution of the volume of investments between the Sector of capital investments and the Sector of investments in consumer goods.
3. Distribution of investments' volume between the Public and Private Sectors.
4. Limiting the volume of the National Defence at the expiry of the years for the Plan.
5. Limiting the volume of consumption during the years of the Plan for realizing the volume of investments limited in the Plan.
6. Limiting manpower in the light of increased population during the years of the Plan.
7. Limiting the volume of production in all economic sectors and in relative branches.

1. Objectives of the Development Plan during the Next Ten Years

In view of the fact that the economic evolution in the Syrian Region has not yet reached the State of full exploitation of all natural resources and that the volume of idle resources is comparatively great, attention should be paid to the exploitation and employment of these resources during the next ten years which will create stable basis for future economic developments causing marked increase in the industrialization rates.

The exploitation of these resources will create an increasing demand on the various commodities especially industrial commodities. For this reason we have widened the field in this period of economic evolution to the various industries.

We can summarise our development plan for the next ten years in the following:

a. Exploitation of all resources unemployed in the past by making projects for watering lands not yet cultivated and dry lands and creation of electric energy for use in industrial expansion and establishment of the required communication for the economy of the Region.

b. Creation of capital and consumption industries, especially industries of commodities for consumption to cope with the increasing demands on industrial commodities due to the increase in the national and individual income and following the increase in the individual consumption due to employment of surplus manpower resulting from increased population during the years of the Plan.

c. Elevation of the National Revenue by 60% over its present rate at the end of 1957.

d. Increasing the National Revenue per individual by 25% over the rate at the end of 1957.

2. General Frame for the Development Plan

Before we review the general frame for the development plan which will indicate the relations and connections among the varieties such as the National Revenue, investment, consumption and population and distribution thereof on the Economic Sectors, we consider it advisable to review the evolution of these varieties during the past years 1950-1956 in order to determine the economic efficiency of the Region during this period and make a comparison among the volumes of these varieties during these years, against the volumes and rates which we have fixed in the frame of the future plan so that we could realize the objectives referred to.

In fact there are no accurate statistics for the volumes of the National Revenue and Investments during the period preceding the Plan but depending on the estimation undertaken by the experts of the International Bank for Reconstruction and Development and the experts of the United Nations, in addition to preliminary statistics in our possession on the National Revenue conducted by the Statistical Administration, we can confirm the estimations of the National Revenue and investments in accordance with the following table.

Year	Gross National Revenue in LS Million	Rate of increase in National Revenue 1/	Gross investments in L.S. Million	Rate of increase in investments 1/	Percentage of Investments to National Revenue	Average Rate of Investments
1950	1,250	100	178.5	100	14.5%	
1951	1,506	120	197	110	13.0%	15.3%
1952	1,727	138	180	101	10.3%	
1953	1,520	121	232	130	15.2%	
1954	1,780	142	304	169	17.0%	
1955	1,650	132	345	194	20.9%	
1956	2,200	176	338	190	15.3%	
			1,596			

1/ Base year 1950 = 100.

It will be observed from the foregoing table that the National Revenue in the Northern Region was markedly increasing to an extent which is not attainable in some advanced countries, as the average yearly increase reached 12.6% and the total increase during the last years 1951-56 amounted to L.S.950 million with a yearly average of L.S.158 million. The reason for this enormous increase is due to:

1. Expansion in lands suitable for cultivation, as the lands planted with cereal grains 1/ increased from 1,717,000 hectares in 1950 to 2,457,000 hectares in 1956 and areas cultivated with cotton from 78,000 hectares to 272,000 hectares, this state led to the employment of idle manpower and lands which did not need a high rate of investments, which naturally led to increase in the agricultural National Revenue from L.S.550 million to L.S. 936 million.

2. Increased efficiency of the Region for savings and consequently for investment the result of more share of the individual in the National Revenue or in the increase of taxes which the State collect from the petroleum companies, an increase which helped in the development of the volume of national income in the construction and industrial sectors of the Private Sector and its increased volume in the Public Sector.

As to the volume and rates of investments, these have reached levels which are scarcely available in certain of the economically advancing countries. While the amount of gross investment was L.S.178 million in 1950, this figure jumped to L.S.338 million in 1956, i.e. an increase of 90%. Its rate in proportion to the National Revenue varies between 10.4% in 1953 and 20.9% in 1955 with an average of 15% during the seven years 1950-1956.

The reason for this considerable increase and investment capacity in the Syrian Region is due to the following factors:

a. Syria has passed a period of marked economic progress following the expansion in agricultural production and increase in the National Revenue which led to constant demands on the various commodities in the other sectors and high levels of other revenues which persuaded investors to expand investments for gaining more profits.

1/ Important cereal grains only.

b. A great part of the increase in the National Revenue was centralized in the hands of great investors, especially agricultural investors, who directed most of this increase in the field of investments.

c. Increase in the amounts of taxes collected from petroleum companies, especially during the last years, which helped increase the investment volume in the Public Sector as already explained in the table of investments.

d. Investment of a part of the accumulated savings during the last war.

Following the review of evolutions in the National Revenue during the preceding years and explaining the efficiency of the Region in investments, we are now in a position to review the Development Plan during the next ten years for the object of executing the development projects.

3. Principles Adopted in the Preparation of the Frame for the Development Plan.

The principles on which the Development Plan has been based can be defined in the following:

A. Considering national savings of individuals or companies or the Public Savings of administrations, public establishments and municipalities, as the element which will undertake formation of the capital in the Northern Region. That is to say that the volume of investments indicated in the tables of the Plan and which must be secured during the years for the Plan shall be financed by the national savings only. We have made this supposition for the following two reasons:

1. This is the sole element which could safely be relied on during a prolonged period of ten years, as if we depend during this same period on foreign loans or on revenues collected from exploitation of petroleum, our plan would become weak, as these resources are subject to variations and the plan drawn on these resources might contain certain exaggerations in the amount of the efficiency of the Region in investments. For this reason the Soviet loan and probable loans from other countries and petroleum investments would increase the volumes of investments and the National Revenue referred to in the frame of the Plan.

2. The rates of investments realized by the Syrian Region in the course of the past years did not depend on foreign loans, neither there was petroleum for investments. As we have based our rates for investments during the years of the Plan on the available rates during the past years, we can therefore make up a comparison between the two rates to prove that there had been no exaggerations in limiting the volume of investments for the next Plan.

B. Gradual increase in the rate of investments during the years of the Plan from 13% to 17% of the National Revenue.

C. The volume of investments shall reach the figure of L.S.4,400 million at the end of the Plan years.

D. Limiting the volume of Public and Private consumption to have the rate of 86.7% for the first year of the Plan to 83% of the National Revenue in the last year of the Plan.

E. The State will undertake the distribution of the volumes of capital production and investments in products for consumers at gradual rates starting at 40% to 56% of the whole volume of investments.

I. Rising the net rate for investments from 13% to 17% of the net National Revenue.

For the realization of an economic development plan for safeguarding the Syrian economy from the risky annual variations and to lead it to the way of reasonable industrialization for raising the rate of net revenue gradually from 13% in the first year of the Plan up to 17% in the last year so that we will be able to invest L.S.4,400 million in the course of the ten years.

It may be said that this rate is higher than the efficiency of the State for savings, but we believe that this rate can be realized for the following reasons:

1. The average rate for savings during the past seven years was 12% of the National Revenue (see table on National Revenue and Investments for 1950-56) in spite of the economic liberty followed by the Syrian Region with respect to investment and consumption policy. The State did not interfere in directing the private savings to investments called for by the society even indirectly. Furthermore, there was a strong proof for this liberty during the past seven years.

If the State interferes in directing savings in the Syrian Region to investments inserted in the Development Program for the Public and Private Sectors and follows the policy of restricting consumption, it would be possible to increase the average for investments by 3% of the National Revenue during the years of the Plan because the average rate for investments during the years of the Plan shall not be higher than 15%.

2. India has imposed development rates for her long-term plan exceeding this rate in spite of the average rate for the individual income being not equal to the rate of the individual in this Region.

3. The Syrian Region realized investments at the rate of 15% of the National Revenue although taxes collected from petroleum were not of significance during 1950-54 but they considerably rose during 1955-56. If the amount of taxes has risen during the past ten years which was sure, due to increased volume of petroleum passing through the Syrian Region and also due to new pipelines, the possibility of increasing the average rate for investments by 3% is easy to realize. It is expected to utilize a marked portion of these supplementary taxes in the Development Program, leaving the balance to consumption.

The following table indicates the volume of investments which should be realized during the years of the Plan and the completion of the Plan. The table also indicates the volume of the National Revenue which could be realized due to investment of this volume of capital.

Frame for the Development Plan 1958-1967

National Revenue & Investments
In Million Syrian Pounds

Year	National Revenue 1/	Rate of Investments	Investments
1957	2,312	13.0	300
1958	1,700	13.3	226
1959	2,519	13.7	345
1960	2,634	14.1	371
1961	2.757	14.4	397
1962	2,889	14.8	427
1963	3,031	15.3	463
1964	3,185	15.7	500
1965	3,351	16.1	539
1966	3,530	16.4	578
1967	3,722	17.0	632
			4,478

1/ We did not take into account the phenomenon of agricultural variations which caused decrease in the national revenue in some years. For this reason we calculated the increase in all the Economic Sectors on the basis that the rate of investment for the national revenue equals (3) whereas in fact it amounts to (1) in the agricultural sector which constitutes 50% of the total of the National Revenue. It also indicated increases in the National Revenue for agriculture during past years.

II. Increasing the total number of investments to L.S.4,400 million at the end of the Plan.

On application of the rates referred to and shown in the foregoing table, the total number of investments during the next ten years will exceed 4,400. We have imagined that the rate of investments to National Revenue is (3) on the basis that it was lower than this rate in 1951-56. It was 1.9 in West Germany, 1 in Soviet Union, 2.5 in the United States, 1.7 in Austria and 2 in Belgium during 1948-54.

In addition to investments and to petroleum taxes, there is another source of money coming through the Soviet loan during the years of the Plan the net amount of which, less instalments and interests, amounts to L.S.370 million. The total amount of investments liable to realization is about L.S.4,948 million.

To this should be added taxes and profits which shall be collected from exploitation of petroleum in the Northern Region which will start in the near future. These profits may constitute a marked figure and may raise the total investments during the years of the plan to a high level.

III. Interference of the State in the distribution of volume of investments, between Investment in Productive Capital and Investment of production for consumption.

In order to accomplish large development projects, the State must interfere in the distribution of the volume of investments between investments for productive capital undertaken by the public authorities and investments in the production of consumption mostly carried out by individuals and companies.

A glance at the distribution of the volume of investments during the seven past years between the Public and Private Sectors will call for the compulsory interference of the State for redistribution of the volume of investments in future years.

Previous tables indicate that the majority of investments goes to the Private Sector, forming a rate of 75.7% and 84.5% during past years. The Public Sector received an insignificant rate not exceeding 24.3% of the total investments.

In respect of sums distributed, we observe that the amount of total investments which the Public Sector could realize during the past seven years reached L.S.341.4 million, i.e. with an annual average of L.S.49 million or 3% of the National Revenue.

This volume of investments obtained by the Public Sector is not adequate for securing the old National Capital, as maintenance of roads, embankments, railroads, etc. and providing the various departments, administrations and public establishments with the ready availabilities to enable them to render their services and also to carry out the huge development projects necessitating enormous sums of money.

If we have a look at the volume of investments in the Public and Private Sectors in proportion to the National Revenue during the past years, the unjust distribution will be realized as would appear in the following table.

	1950	1951	1952	1953	1954	1955	1956
Gross national revenue	1250	1506	1727	1520	1780	1650	2100
Rate of investments in Private Sector to National Revenue	12.0%	10.7%	8.1%	12.5%	14.4%	17.0%	12.2%
Rate of volume of investments in Public Sector to National Revenue	2.5%	2.3%	2.2%	2.7%	2.6%	3.9%	4.0%
Rate of total volume of investments in both Sectors to National Revenue	14.5%	13.0%	10.3%	15.2%	17.0%	20.9%	16.2%

For this reason we have also proposed that the State will interfere in the economic affairs and take all measures 1/ towards the redistribution of investments so that the Public Sector could be provided with adequate funds out of the National Savings for carrying out the Development Program.

1/ These will be dealt with later.

We have laid down in our Plan distribution of the volume of investments which could be realized by virtue of these measures in the light of the nature of the development projects detailed in our Development Program and the needs of administrations, establishments and public departments and municipalities for ready capitals for maintenance and offering services and increasing demand on the various capital commodities and commodities and services to consumers due to execution of the development projects.

The following table gives an indication of the distribution of investments in the two Sectors, i.e., the Sector of Investments in the productive capital and investments in the productions for consumers. We have fixed the various rates for the distribution for every year of the Plan in the light of consideration to which we referred before. We have fixed this rate at 40% for the Public Sector for the first year as the State had not yet started measures to restrict private investments directed in industries for consumption. We have graduated these rates until they reached 56% and subsequently lowered to 36% in the last year of the Plan. In accordance with these rates, the share of investment in productive capital, most of which the State will undertake, will reach L.S.2,146 million or 47% of the total investments.

Plan for the Distribution of Total Investments on Capital Investments & Investments for Consumption

Year	Total Investments	Capital Goods: % to Total Investments	Capital Goods: Amount of Investments	Consumption Goods: % to Total Investments	Consumption Goods: Amount of Investments
1958	226	40%	90.4	60%	135.6
1959	345	48%	165.6	52%	179.4
1960	371	53%	196.3	47%	174.7
1961	397	54%	214.3	46%	182.7
1962	427	56%	239.1	44%	187.9
1963	463	56%	259.2	44%	203.8
1964	500	56%	280.0	44%	220.0
1965	539	45%	242.5	55%	296.5
1966	578	40%	231.2	60%	346.8
1967	632	36%	227.5	64%	404.5
	4,478		2,146.1		2,331.9

The sum of total investments should be distributed over the administrations, establishments, departments and municipalities for warranting the public capital and providing the essential tools and machineries for securing public services for the development projects to be undertaken by the Economic Development Organization.

Steps should be taken by the public authorities to restrict the volume of investments called for by the various administrations and municipalities especially in the course of 1960-64 to give room to the Economic Development Organization for financing the development projects.

As to the volume of investments for the production of consumption goods, a sum of L.S.2,332 million has been assigned from the National Savings, representing 53% of the total investments, ready for execution from the Public and Private Savings. We have followed gradual rates for this Sector for the years of the Plan starting by 60% for the first year which was gradually lowered to 44% in 1962, 1963 and 1964, and raised this rate to the former rate for the remaining years of the Plan.

It is worthy to say that the volume of investments represents only those drawn from the Public and Private Internal Savings. To this should be added investments drawn from the Soviet and other foreign and future loans, profits from petroleum exploitation discovered in the Region and the mineral wealth which studies and researches will manifest its existence under the ground.

We also have to mention the resources coming via the compulsory savings obtained from loans of the Central Bank designated for the development projects.

IV. Limitation of Public and Private Consumption during the Years of the Plan.

The elevation of the average rate of investments during the years of the Plan by 3% of the National Revenue requires the same average rate for savings. This cannot be acquired except by restricting consumption which will cover public and private consumption. We will deal in a later chapter with the measures to be adopted for realizing the investment rates indicated in the tables of the Frame of the Plan.

We have registered the average rate for consumption during the years of the Plan at 3% over the average rate of consumption during the seven past years. But this does not follow that the average consumption per individual during the years of the Plan will be lower than the average rate for the past seven years. To the contrary, this average rate will be high during the years of the Plan. The following two tables indicate that in spite of the increase in the population of this Region for the next ten years reaching 1,161,000 with a rate of 28% of the population at the end of 1957, the average rate of individual consumption will be raised at the end of the Plan by 20% over the rate at the end of 1957.

This clearly shows that the level of livelihood can be raised.

The rate of increase in the volume of consumption during the years of the Plan exceeds the rate of consumption per head. The table shows that at the end of the years of the Plan the increase in the volume of consumption will be 53.5% over that at the end of 1957. This is a very high rate as compared with the plans laid down for many economically non-advancing countries.

As to the National Revenue, this will increase at the rate of 60.9% at the end of the years of the Plan and the National Income for individuals will be increased by 25.8%. That is to say that our general National Revenue will be doubled in less than 17 years.

Frame for the Development Plan 1958-1967

National Revenue, Investment & Consumption

Year	National Revenue LS Million	Investment LS Million	Consumption LS Million	National Income per Individual in Syrian Pounds	Individual Consumption in Syrian Pounds
1957	2312	300	2012	557	-
1958	1700	226	1474	400	346
1959	2519	345	2174	578	499
1960	2634	371	2263	590	507
1961	2757	397	2360	602	515
1962	2889	427	2462	616	525
1963	3031	463	2568	630	534
1964	3185	500	2685	646	545
1965	3351	539	2812	663	556
1966	3530	578	2952	682	570
1967	3722	632	3090	701	582

Population, National Revenue & Consumption

Year	Increase of Population	Increase of National Revenue	Increase of Individual Income	Increase of Consumption	Increase in Individual Consumption
1957	100.0	100.0	100.0	100.0	100.0
1958	102.5	73.9	71.8	73.2	71.3
1959	105.1	108.8	103.7	108.0	102.8
1960	107.6	113.0	105.9	112.4	104.5
1961	110.3	110.5	108.0	117.4	106.1
1962	113.1	124.9	110.5	122.3	108.2
1963	115.9	131.0	113.1	127.6	110.1
1964	118.8	137.8	115.9	133.4	112.3
1965	121.8	144.9	119.0	139.7	114.6
1966	124.9	152.6	122.4	146.7	117.5
1967	128.0	160.9	125.8	153.5	120.0

From the foregoing, it would appear that the Northern Region is not in a difficult position where the increase of population is racing with the increase of the national revenue as is the case in India and in consequence the promotion of rising the level of living would become extremely difficult. The case is to the contrary as the vital statistics and the statistics for the National Revenue for the preceding years did not show that the average income per person has markedly increased even though the number of population increased by 2.5% per year. Moreover, there had been no development plan for expanding the volume of investments and consequently increasing the national revenue.

SECTION C

THE DEVELOPMENT PROGRAM AND DEVELOPMENT BUDGET

FOR 1958-1967

SECTION C

THE DEVELOPMENT PROGRAM AND DEVELOPMENT BUDGET FOR 1958-1967

Chapter I

Objectives of the Development Program and Distribution of Funds

1. It is evident that the objectives of any development program must be intended for the welfare of the society. Development programs are no longer restricted to material production but they are intended for vast objectives which will realize substantial and moral benefits to the society. These objectives are framed in the shape of common policy which is approved by the State and put into application. Such as the full employment of all material and manpower possibilities available in the Region and the policy for eliminating commercial differences throughout the various categories of the society.

The development objectives must not be treated individually, that is to say that the execution of one of these objectives may dispense with the realization of any of the others. To the contrary the development objectives are linked to one another which cannot be realized in part but must be totally realized. For instance expansion of production cannot be fully realized unless accompanied by other attempts for realizing other objectives of wider scope connected with the amelioration of social position of the Region.

2. We have alluded in Section A of this report that a Development Program has been drawn up for the Syrian Region and approved by the President of the Republic (Decree No. 133 of 1958). We have stated that this Program should be taken as a preliminary humble step in the field of economic development planning. On analyzing the objectives of this Program, the existing Syrian economy and nature of development stage must be taken into account.

We have to anticipate that these vast objectives are of long-term which cannot be realized except in stages and during long periods of time. If we wish to realize social justice for eliminating economic differentiations among the various categories of the society, we have in the first place to pave the way for a strong economic foundation to enable individuals in practising their economic activities and productive efficiency to devote their time in investing the wealth of the Region and exploit all idle and semi-idle resources.

It must also be understood that the objectives of the Economic Development Planning do not contradict one another but the case does not exceed the principle of giving priority by order of importance. This means that the potentialities of economic development and social and technical evolutions are not limited whereas the means for realization of economic developments are limited within a specific period of time. This had led to laying down an arrangement on the basis of which the various development projects would be accomplished according to their order of importance as far as the national economy needs are called for.

3. We have already explained that subsequent to World War II, the Syrian economy started to develop in virtue of the individual activities. Reclamation of agricultural lands and means of irrigation, establishment of various industries and expansion of services were all accomplished through the activities of the Private Sector.

This does not mean that the Government Authorities acted as spectators of the National Economy, but in fact the consecutive governments took active measures in encouraging the Private Sector. The only remark was that the Government did not give sufficient care to economic developments. As already mentioned, since the era of independence, the Government has taken active steps in activating the economic movement but the phenomenon which conquered these works was connected with the absence of planning and the scattered powers. Furthermore, the Government did not take a good part in the Private Sector in respect of performing the fundamental economic functions, lying in,expanding and stabilizing the economic foundation.

4. The main objective of this Economic Development Program for the next ten years is ultimately intended for execution of projects that would stabilize the economic foundation of the Region and subsequently activating the Private Sector and opening fresh horizons in the investment and production fields. This is why we warned that the Development Program shall not be looked into as an economic development plan comprising the whole national economy but, in fact, it is a program embodying projects the execution of which lies within the circumscription of the Government.

Stabilizing the economic base calls for constructing dams, regulating river basins, digging wells, undertaking studies and researches for improvement of agricultural products and qualities, laying down railroads, constructing roads, airports and embankments. All these works must be undertaken by the Government.

The Government should also pave the way for the expansion of industrial production, establishment of new industries, introduction of effective means for industrial loans, offering subsidies to existing and new industries and researches for metals and industrial raw materials burried in the ground. Similar attention should also be paid to tourism and summer resorts.

Analysis of the various developments projects included in the Frame of the Public Development Program which will be undertaken by the Government in the course of 1958-68 will give us the opportunity to be made aware of the fundamental objectives which the Development Program is attempting to realize.

The following is the general frame for the Economic Program with details of the various groups contained therein.

General Frame for the Economic Program
(1958-1968)
In Million Syrian Pounds

Development Projects	Credits Alloted for Individual Projects	General Credits for Aggregate Projects	Percentage of Total Credits
Aggregate projects for irrigation, agriculture and electric power		1,459	68%
Euphrates Basin	1,140		
Khabour Basin	75		
El-Ghab -Acharna	100		
El-Asi High Basin	20		
El-Asi electrification	28		
The large River Basin	20		
El-Roog	4		
El-Sin Basin	8		
Barada Basin	15		
El-Awag Basin - Banias	4		
Yarmouk Basin	8		
Digging of wells, construction Dams of, shelters and depots for forage in the desert	29		
Agricultural expert	2		
Forestation	1		
Study and execution of dams and other irrigation works	5		
Aggregate projects for communication and storage		365	17%
Railroads and cereal depots	250		
Airports	50		
Embankments	15		
New public roads	50		
Aggregate industrial projects		160	7.5%
Geological plan, exploration of petroleum, mining, topography, Syrian Industrial Bank	30		
Chemical and Fertilizer laboratories	60		
Decantation of petroleum and depots	70		
Aggregate projects for public services		32.5	1.5%
Tourism and summer resorts	30		
Anti-torrent project for Hama	2.5		
General administrative expenses	15		
Aggregate various expenses		123.4	6%
Technical & Vocational Training	10		
Interests, foreign loans	83.4		
Interests, International loans	15.0		
Total	2,139.9	2,139.9	100%

5. The limitation of objectives for any development program necessitates that these objectives must correspond to actual national economy and realizing its requirements and removing any existing defects. The economy of the Syrian Region is a first class agricultural economy absorbing 75% of the population. Agriculture participates in about 50% of the National Revenue of the Region and 85% of the total exports. In spite of this, the agriculture economy suffers from basic defects mainly due to the agriculture depending solely on rainfall and therefore is constantly under rain mercy. Agricultural production will be seriously affected if rain stops to fall in any of the agricultural seasons. To this should be added the primitive means employed which bring down production to half of that which ought to be. A glance at the foregoing table will show the enormous credits inserted for the aggregate agricultural production amounting to 68% of the total credits for the Development Program.

These agricultural projects include the process for generating hydraulic power from the various dams, especially those of the Euphrates and El-Asi rivers. This power will have substantial advantages and in the way of providing power to new industries and consequently decreasing production costs.

6. Transport expenses in the Syrian Region constitute a basic factor in raising costs of production either in the agricultural or the industrial field. Transport expenses of crops, in certain cases, are either equal to the prices of the crops or even higher. This is the cause why our crops are more expensive than other world crops. Our crops therefore lose the competitive power which is a fundamental factor for securing foreign markets.

In view of the fact that our Region is in pressing need for economic communication netting and depending, for the time being, on lorries for the transport of crops and as this will cause the loss of a great part of the National Revenue in settlement of lorry charges, the aggregate communication projects and storage of cereals were given the second order next to the various development projects. The rate of amounts assigned for this category of projects is 17% out of the total general credits. The laying down of a railroad for linking the agricultural productive zones at the two zones of the Jezirah and Euphrates with the Port of Latakia is the first among communication projects. The credits for this project together with the works for storing cereals amount to L.S.250 million out of the general total of L.S.365 million. The operation of laying down the railroads will be accomplished simultaneously with the irrigation projects at the Jezirah and the Euphrates which will raise the products from one million to three million tons. Experts believe that transport expenses will drop from L.S.70 to 35 directly after the introduction of the railroads. In the meantime, the construction of warehouses for storing cereals will raise their quality as they will no longer be exposed to entomological variations.

7. In the industry and industrialization fields, the Government expressed conspicuous aptitude for stabilizing the economic base in respect of the aggregate projects for industry contained in the Development Program. The works for explorations for petroleum, minerals, topographical, printing and geological plan, and the establishment of the Industrial Bank, chemical and fertilizer laboratories and petroleum industries, are all Government works which cannot be undertaken by private individuals. Other various industries and industrial activities were undertaken by the Private Sector under the guidance of the Ministry of Industry and in accordance with the industrial program planned by the Ministry.

8. A credit in the Development Program has been assigned for the aggregate service projects, the rate of which is 1.5% of the general total of credits. Although this rate is feeble in view of the importance of the general services in economic developments, but the financing availabilities, the order of priority have only allowed this rate. However the projects of the social and rural affairs in the field of general services will lead to expansions in the service projects and will therefore receive their deserved merits.

9. The Development Program has lately included a category of expenses termed "Various Expenditures" as shown in the previous table. The most important of all items of these expenditures is that referring to Technical and Professional Training. The posts of the State require this essential training for improvement of the level of technical knowledge. For this reason L.S.10 million were assigned for this purpose in the Development Program.

10. Following our brief review of the Development Program for the next ten years, we have to summarize the aims and objectives of this Program in broader lines, as explained herebelow:

1. This program aims at the realization of increases in the National Revenue in respect of rising the level of productive possibilities in abundance in the country within the limits of the financial efficiency of the national economy during the next ten years.
2. As the stabilization of the economic base is of prime importance, the Development Program has contained projects realizing this objective.
3. As the various projects outlined in the Development Program vary as to their priority towards the National Revenue, the credits for the Program were distributed over the various projects and over the ten years, according to order of preference, consisting of the status of the National Revenue, and the possibilities of the financial efficiency.

Chapter II

Development Projects contained in the Budget for Economic Developments

A. Agricultural, Irrigation and Hydraulic Power Projects

Introduction

The economy of the Syrian Region is counted as first class agricultural economy as 70% of the population depend on agricultural products which represent 80% of the Syrian exports and 50% of the total national Revenue.

Agriculture in Syria takes advantage of seasonal rains and benefits by Rivers, springs and well water. As the area of agricultural watered lands has markedly increased due to individual efforts, agricultural production still depends on rain water. Agricultural production is therefore subject to the mercy of the seasonal rain and entomological variations of which nobody can prophesy.

It is possible to improve the agricultural production in Syria by means of improving the agricultural methods in present use. Selection of suitable seeds, diversity of plants and adoption of agricultural rotations, utilization of natural and chemical fertilizers, combating worms and harmful herbs and adoption of modern implements. All these means will increase the agricultural production. Proper means for storage and transport of cereals should as well be adopted.

Increase and improvement of agricultural production can be realized on firm basis by the expansion of the areas of watered lands and the rate of production by means of irrigation increases to a level that would dominate and regulate agricultural production.

Increase of agricultural production by irrigation is a sufficient guarantee for expanded production which also lessens the effects of entomological variations and decreases the marked differences in the quantities of production, thus obviating occurence of economic disasters due to seasons of famine and dryness.

The economic development in Syria requires interference of the State and administration for its planning for developing the economic resources and directing the Public and Private economy to the intended objectives and realizing the expected advantages. The operation of economic development endeavors after exploitation of the abundant resources and making advantages of all availabilities and powers on proper scientific lines.

As regards agricultural production, this refers to full exploitation of all lands suitable for cultivation and taking advantage of the abundant water of rivers, valleys, springs and underground wells. Exploitation of hydraulic wealth is not restricted to irrigation only, but it also covers domestic purposes and in industry. Water falls are employed in the generation of cheaper power. Organization of hydraulic wealth will avoid dangers of floods of which man and production greatly suffer. The main objective of water exploitation in the Syrian Region is to irrigate the greatest areas of agricultural lands and next in importance generation of electric power for the welfare of economy and elevating the standard of living of our compatriots.

Our review of projects for irrigation, agriculture and hydraulic power will prove the amount of its effects as being a profitable economic operation. However, the benefits of these projects lie in their essentiality and results obtained and not for realizing an individual profit. The exploitation of these abundant resources is a fundamental matter for organizing agricultural production and realizing increases in production and national revenue.

The responsible authorities must undertake the execution of these projects and people must comprehend their motives and their part in constructing the Syrian economy.

Technical Studies

The execution of any economic project requires minute scientific studies based on facts and reliable data covering all economic aspects relating to the project. Naturally, these studies should be preceded by the necessary statistics and adequate preliminary data. In fact we must admit that Syria is badly in need of these technical data and scientific studies, either in general or in details. This deficiency is more apparent in topographical and geological surveys, analysis of soil, hydraulic studies, economic studies for strengthening economy in the Syrian Region.

The survey works only cover 45% of the total area of Syria, i.e., there are about 10 million hectares which are not yet surveyed up till the present moment (1 hectare = 10.000 m^2). Geological studies are still on the start. Studies and analysis of the soil covered a small area of scattered lands. Meteorological and hydrological data require a considerable time for increasing gauging and registration centers to become adequate for weather conditions and for perfect estimation of water sources in Syria.

This deficiency is natural and common in a country like Syria which is on the start of modern scientific lines. It is probable that this deficiency may continue for some years in the course of which studies will be more accurate until the preparation for topographical, geological and hydrological surveys has been accomplished. This deficiency does not justify postponement of the development projects but that greater care must be paid during the execution of these projects until the final detailed studies have been completed.

The execution of the economic development projects is the only practical way for constructing the Syrian economy. Necessity and time play a fundamental part in the execution of these projects. The execution of any of these projects, having perhaps certain defects is more advantageous than to await for rectifying these defects before starting work in the project, a question which may not be practically realized.

The Irrigation and Hydraulic Department and others of the Ministries of Public Works, Communications and Agriculture in Syria have undertaken studies of a number of projects and have executed some of them. There are therefore preliminary and fundamental data available. On the other hand, the publications of the Statistical Administration contain considerable number of data and facts. There are also reports and studies which have been undertaken by a corporation of foreign advisory engineers. Of those available studies, the following are given:

1. Advancement of the Syrian economy, drawn up by Alexander Gibb's English Company in 1947.
2. Development of Syrian Economy by the International Bank - 1954.
3. "El-Ghab" Project by Nedeco, a Dutch Company, in 1953.
4. Documents of Rastan Dam tender by Gruner, a Swiss Company in 1957.
5. The present studies conducted by the Soviet experts in accordance with the stipulations of the Economic and Technical Agreement signed between Syria and the Soviet Union in 1957 and supplementary contracts relating thereto in 1958. These studies relate to the completion of all scientific studies and the preparation of the necessary plans for the execution of the Economic Development Projects in Syria.

In the light of these facts, we bring forward this general review for the economic development, covering agriculture, irrigation and hydraulic power which this Organization intends to accomplish during the next ten years for the execution of the Economic Development Program for Syria. In this review we will practice accuracy in the estimations by considering the minimum to represent the possible amount obtained for realizing these projects, either in whole or individually. This indicates that the actual and expected amount of production for these projects will be higher than those which we will discuss and present.

Available Potentialities

The present population of Syria is above 4 million. Half of this number is concentrated in the three northern governorates, Aleppo, Euphrates and Jezira. The rural population on the agricultural sector constitutes two-third of the population, spreading in 5,500 villages.

The area of cultivated lands in Syria is approximately 185,000 square kilometers or equal to 18,500,000 hectares, which can be distributed on the following general form:

Lands Suitable for Cultivation

1.	Cultivated by rain	4,000,000	Hectares
2.	Cultivated by irrigation	500,000	"
	Total cultivated	4,500,000	"
3.	Not cultivated	2,600,000	"
	Total lands suitable for cultivation	7,100,000	" 1/

1/ Estimates.

Lands Unsuitable for cultivation

1.	Forests	450,000	Hectares
2.	Pastures, plain & mountainous	6,250,000	"
3.	Desert and salty	4,700,000	"
	Total unsuitable for cultivation	11,400,000	"
	Grand total	18,500,000	"

The State possesses about 1,500,000 hectares of lands suitable for cultivation of which, for the present, about 550,000 hectares are rented.

As to the present agricultural production in Syria, the cultivation of cereals constitutes more than 70% of the total cultivated lands and the remainder or less than 30% represent legumes, fruits, vegetables and cotton. Cotton areas have increased during recent years and now comprise 300,000 hectares of which 200,000 are watered by rain. Cotton production rose above 250,000 tons yearly and now occupies an important position in the Syrian production.

Irrigated lands represent 11% only of the total cultivated areas. The areas irrigated easily do not exceed 200,000 hectares, whereas the areas irrigated by watering exceed 300,000 hectares. If we suppose that a steam horse power irrigates an average of 1.5 hectares per year, 200,000 H.P. will have to be required in excess to the available machinery.

This estimation comprises all the present watered lands by means of rivers, springs, wells and all other means of irrigation such as water-wheels, easy means and mechanical pumping. Out of the watered areas, half of which or about 250,000 hectares lie in the Euphrates basin and its main tributary El-Khabour, 50,000 hectares in the middle zone and in El-Asi basin. The remainder is distributed on the coastal plans, Aleppo plain, Damascus and other places in Syria.

With the exception of "El-Ghab" project, the State projects at present comprise 60,000 hectares of the watered lands or 12% distributed all over the Region, consisting of "Maghas" hill on the Khabour, El-Asi basin around Homs and "El-Matkh" project south of Aleppo and "El-Rog" swamp and river Sin projects and "Mozirib" on the Yarmouk.

As to the irrigation availabilities in Syria, these can be estimated on the basis of two fundamental factors, viz: lands suitable for cultivation and the water sources. Through the practical exploitation of these two elements, the agricultural evolution and economic developments of Syria depend.

Lands and Water

With the exception of Latakia coast zone, the agricultural lands in Syria stretch in the shape of a crescent starting from Horan to the south alongside to Aleppo to the north and ends at the angle of the Turkish and Iraqi boundaries to the east.

The weather of Syria is characterized by a short, damp and rainy winter and a long, dry and hot summer. The rate of rainfalls differs in Syria mounting to less than 100 mm. in the Eastern Desert, and above 1,000 mm. in the Elwiyeen Mountain and the Eastern Lebanon Mountain Range.

The annual rate differs in the agricultural lands in Syria varying from 150 mm annually at Deir El-Zor to above 900 mm at Latakia Plain. Map No. 1 shows the distribution of annual rainfalls in the Syrian Region.

As to the quality of the agricultural soil, it can be classified as follows:

1. Coast plains and El-Elwiyoon Mountain: Common light sandy soil fit for the cultivation of fruits and tobacco.

2. Horan zone and Jebel El-Arab: The agricultural soil is either light maroon fertile soil or deep brown which is extremely fertile. Stones frequently exist in zones of light lands, the color of which is red which decreases the agricultural value of the land.

3. Plains of East Lebanon and Damascus Basin: Thick fertile red brown layers of fertile lands exist in abundance at Damascus zone which is somewhat salty. Many stones are found in the sediments of the valleys especially on the foothills.

4. The Middle Plains stretching to the north up to Aleppo: The soil is either semi-dark full of stone and pebbles or brown and maroon which is very useful for cultivation.

5. The Middle Valleys and Eastern Desert zone: Color dark brown, used only as pastures and for making use of the underground water available.

6. The Jezira and Euphrates plains or the stretch of the fertile crescent. This constitutes an area, the breadth of which is 50-100 kilometres. The soil is light with red brown color, which becomes darker towards the north mostly dark maroom. Soil is very fertile.

7. The valleys of the three main rivers, Euphrates, Khabour, El-Asi and El-Ghab: The soil consists of deep sediments of mud distinguished by its excellent agricultural quality.

As to the area of lands suitable for cultivation in Syria, the soil of which is black, chesnut and reddish brown, this amounts to 7,100,000 hectares. Half of this area is of excellent quality for agriculture and the other half is good and can be reclaimed easily and cultivated. The remainder of Syrian lands, being 11,400,000 hectares, consists of desert, semi-desert, mountainous and salty lands.

The available water sources in Syria lie in rivers, springs and underground water which sufficiently cope for irrigating the agricultural lands in Syria and compensating the shortage of rain water.

Preliminary studies indicate that the total quantity of water supplied by rivers, water-wheels and springs in Syria amounts to 30 billion m^3, distributed as follows:

Source	Quantity of Water Supplied	Percentage
Euphrates River	25,000 million m^3	83%
Khabour River	1,700 " "	6%
El-Asi River	1,000 " "	3%
Others	2,300 " "	8%
	30,000	100%

Considering that the share of Syria from the Euphrates water is 50%, the quantity of water available in Syria amounts to 17,000 million cubic meters yearly which is sufficient for the requirements of irrigation for Syria, as will be realized by the following review.

Availabilities and Development Program

It is natural that the Development Program for Syria aims at exploiting all lands suitable for cultivation by utilizing all available water resources in order to compensate for the shortage in rain water, and thus irrigating all agricultural lands.

The need of agricultural lands for water for irrigation vary as this depends on the nature of the soil, the quantity of rain water, the variety of the plant and some other factors of subordinate importance. If we consider that the average need of a hectar is 0.5 litre second, for six months of the year, the quantity required is 7,780 m^3 of water per year.

On this basis and on the understanding that 15% of the total water are wasted during the process of distribution, Syria will have sufficient water for irrigating 2 million hectares of the areas suitable for cultivation. These lands which can be irrigated in the Region are roughly distributed as follows:

Euphrates Basin	1,300,000	Hectares
Khabour Basin	200,000	"
El-Asi Basin	200,000	"
Other zones	300,000	"
	2,000,000	"

If this exploitation of the agricultural lands as well as the water resources is fully undertaken, the distribution will be as follows:

5,100,000 hectares	by rain
2,000,000 "	by irrigation

This is in addition to the amount of electric power which could be generated from water falls, not less than 500,000 KW.

The realization of this program is practically possible, although a number of difficulties stand in the way. If it is accomplished, the unwatered cultivated lands will increase at a rate of 28% of the total presently cultivated lands. The rate of watered lands will be more than 28% of the total cultivated lands, i.e., more than double the present rate by 11%. If we consider that the average yield of an irrigated land is three times equivalent to that of unwatered land, the agricultural production will be doubled. The National Revenue will consequently rise at a rate not less than 60% of the present rate.

It is of interest to explain that the realization of this project and the increase or irrigated agricultural lands, in addition to the increase in the agricultural production and its organization, will also liberate agricultural production from the effect of weather variations. This means that the rate of irrigated cultivation to total agricultural production will rise from 27% to above 54% as a result of the realization of this Program.

The agricultural production will become more organized and a strong factor in stabilizing the economic structure in Syria.

Present Development Program

The Economic Development Program for the next ten years aims at exploiting the main two sources of wealth, i.e., land, water for irrigation and hydraulic power purposes. Due to lack of scientific studies, these programs will realize the minimum of the abundant Syrian availabilities.

In respect of irrigation, the Program aims at irrigating 1,100,000 hectares of agricultural lands, including 275,000 hectares of land already irrigated. Map No. 2 indicates the distribution of the proposed projects for irrigation in Syria and approximately the zones which are intended for irrigation. As to the distribution of lands included in the proposed development projects, these can be summarized in the following:

Lands Included in the Projects - In Hectares

Zone	Area Presently Irrigated	Amount of Increase	Total
Euphrates Basin	200,000	600,000	800,000
Khabour Basin	50,000	100,000	150,000
El-Asi Basin	25,000	85,000	110,000
Other Projects		40,000	40,000
	275,000	825,000	1,100,000

The other projects include the following:

El-Kebir River	3,000	hectares
El-Rog Pond	5,000	"
El-Sin River	10,000	"
Barada Basin	15,000	"
El-A'wag - Banias	2,000	"
Yarmouk Basin	5,000	"
Total	40,000	"

As to generation of electric power from hydraulic energy, included in this Program, it is intended to generate not less than 150,000 KW.

Execution of this 1 -Year Development Program will realize the expansion in the existing irrigated lands at the rate of 165% by raising its area from 500,000 to 1,325,000 hectares. This means that the rate of the existing irrigated lands will be raised from 11% to 25% and also the increase of irrigation production in agricultural production from 27% to approximately 50%. The existing agricultural production for Syria will be raised to 45% or to about 50% of the present National Revenue.

In addition, the Program intends for the storage of the necessary water for utilization at irrigation intervals at ease which will lead to disposing with the present method of pumping in frequent use in Syria for irrigating agricultural lands. It is recognized that irrigation by means of mechanical pumping increases agricultural production costs and decreases the net revenue of irrigated lands, because it requires importation of machinery, spare parts which in fact is sometime difficult to obtain, besides costs of fuel and other rare equipment required for the development of the Syrian economy.

There is another problem which the scientific study may call for, relating to the irrigation operation and any accompanying technical and economical problems. Lands suitable for cultivation lying in the neighborhood of water sources can be irrigated. But it happens that certain of these lands are above water level that would render the operation of irrigation highly expensive due to the necessity for heightening the level of stored water and other technical constructions which the nature of the lands call for.

The pumping operation may be indispensable from the economic point of view. We cannot for the time being certify this by accurate scientific studies especially as the main irrigation zones are lying in the basins of the Euphrates and El-Khabour. For this reason we have made our estimation on the minimum, on the basis that the majority of the lands referred to in the projects will be irrigated through the easy method.

As to the expenditures for the projects, amount of production, advantages obtained will be dealt with at the end of the report.

We will review details of the irrigation and the proposed projects for hydraulic energy on the basis of the available studies and data.

The Euphrates Basin

The River Stream

This river springs out from the Turkish Plateaux behind Taurus Mountains and penetrates into the Syrian Region up to Bokmal and running into the interior of Iraqi lands until it terminates at the Persian Gulf and discharges its waters in Shat El-Arab. The distribution of the river current and basin in the three countries is shown in the following:

Country	Length of River Kilometers	Area of Basin Square km	Rate of Annual Rain in Basin in mm
Turkey	420	110,000	400-1500
Syria	680	70,000	150- 400
Iraq	1,200	170,000	75- 150
	2,300	350,000	

The characteristics of the Euphrates current in Syria are summarized in the following table:

	Length of River Kilometers	Water Level in Meters	Gradient in River Flow in cm per Km
Grablos	-	325	40
Yussef Pasha	78	294	43
Maskana	131	271	26
Rekka	259	238	22
Aleppo	384	211	16
Deir El-Zor	469	197	14
Khabour River	540	187	15
Bukamal	680	166	-

From the table it will be observed that the grade of the slopes of the river varies from 14 to 43 cm/km. The average grade in Syria is 23 cm/km which is rather a comparatively high grade for the river. This increases the quantity of mud and other sediments which the river carries throughout its course.

The Euphrates is distinguished by its numerous undulations. During the floods the river loses its steady current and frequently forms islands which it abandons and creates others. These changes in the river course are interesting in the studies for the construction of dams to organize the output of the river.

The Euphrates has three main tributaries, viz:

a. River Sagour. It flows at Entab Plateau and discharges its water into the Euphrates at Tell El-Ahmar, running for 48 kilometres in Syria, out of its total course of 108 kilometres. The average annual output of this river is 3 m^3/second or 100 million m^3 yearly.

b. El-Balikh River. It is formed of water accumulations in the Hauran uplands in Turkey and falls in the Euphrates just after the town of Rokka. It runs for about 105 kilometres in Syria. The average annual output of this river is 6 m^3/second, equivalent to 200 million m^3 per year.

c. El-Khabour River. This is considered as the main tributary of the Euphrates. It flows from the northern boundaries of Syria at Ras El-Ein. It flows for about 450 kilometres in Syria and discharges its waters in the Euphrates at Deir El-Zor, 20 kilometres before the town of El-Mayadin. The average output of this river is 53 m^3/second or 1,700 million m^3 yearly.

The water flowing in the Euphrates changes in pursuance to the seasons of the year. The quantities of the output differ in the course of the months of the year. The river level is low in summer dry months (August to November). The lowest level prevails in September. It rises during the winter months and rainfalls. The river gauges are used for short periods and are of limited use but the river output at Maskana gives a clear idea of the flowing quantities.

The amounts of the river output vary from minimum level down to 146 m^3/second up to a maximum of 4,038 m^3/second. The Euphrates flood reaches its top to above 5,200 m^3/second. The average output is 3,800 m^3/second, giving a total of 14-27 billion m^3, whereas the average total output is approximately 25 billion m^3 per year, i.e. 83% of the total output of rivers and water-wheels.

The Euphrates enters Syria in a deep valley at Grables. Its course gradually widens until it reaches the alluvium zone which forms the Euphrates valley. The Euphrates in its course in the alluvium valley comes across the following channels:

a. Kal'et El-Negm site at 35 kilometres from the river stream, 308 metres above sea level.

b. Yussef Pasha site, 78 kilometres distant and 294 metres above sea level. The breadth of the alluvium valley in this site is only 70 metres.

c. Halabia site, 384 kilometers and 211 meters above sea level. At this site the breadth of the Ghorini valley becomes 600 meters approximately.

With the exception of those channels, the Euphrates valley is widened until it leaves Syria.

The long narrow valley of the Euphrates in Syria stretches from the north-western angle at Grables to the south-eastern angle at Bukamal, with a length of 450 kilometers. The average breadth of this valley differs. In the first quarter of the stream (Grables-Meskana) it is 4 kilometers, in the second quarter, the average breadth of the valley is 6 kilometers, whereas in the other half of the stream the breadth of the valley reaches the maximum average of 16 kilometers. While the average breadth of the valley in the middle of the stream is 12 kilometers, therefore the average breadth of the Euphrates valley in Syria amounts to 7.5 kilometers and consequently the area of this alluvium valley of the Euphrates exceeds 330,000 hectares.

This valley's soil is mainly composed of sediments consisting of mud, alluvium and clay. The depth of this soil and its freedom from saline makes it one of the best soils for irrigation. It is suitable for the planting of cotton, rice, peanuts and millet and other summer crops. It is also suitable for the cultivation of wheat, barley, leguminous plants, cattle forage and other winter crops. Fruit and poplar trees can be planted in this soil.

The Euphrates Plain which surrounds the Euphrates valley on both sides lies at a height varying from 100 to 200 meters above the alluvium valley in which the river runs. The winter streams penetrate deeply into the sides of this valley especially in the first part. The area of lands suitable for cultivation in this plain surrounding the valley exceeds 1,000,000 hectares. The greater part of these agricultural lands lies in the middle part of the river basin between Meskana and Deir El-Zor, at a length of 240 kilometres.

Preliminary studies revealed that these lands are equally suitable for cultivation as lands lying in the Euphrates valley. Analysis of the soil is not yet forthcoming.

Availabilities of Irrigation

The Euphrates basin lies in a zone in which the quantity of rainfall varies from 100 to 400 mm yearly. Quantity of rain exceeds 200 mm in the first quarter of the Euphrates basin. The quantity is below 200 mm in the remaining lands of the basin. This makes it unsuitable for cultivation by rain water and therefore must be irrigated.

The area of lands suitable for cultivation in the Euphrates basin is estimated at 1,340,000 hectares, whereas the lands actually cultivated do not exceed 27% of the total lands in the Euphrates valley as only 370,000 hectares are cultivated, of which 200,000 hectares are cultivated by irrigation and 170,000 hectares by rain water. The balance amounting to 970,000 hectares is still virgin which had not been cultivated in the past. This is due to the reason that most of these lands exist in a zone where rainfall is less than 200 mm yearly or in the plain which is 100 to 200 meters above water level which renders its easy irrigation or by pumping highly expensive which could not be afforded by individuals. The present agriculture is therefore restricted to the alluvium lands in the Euphrates valley or the neighboring plain where water could be lifted for its irrigation.

The irrigation operation is at present based on raising the level of the river water to the level of the land calling for irrigation by free flow or by the employment of water-wheels, and mechanical pumping. The rate of lands irrigated by pumping is 85% of the total irrigated areas in the Euphrates valley. The number of the existing pumps, which substituted the water-wheels, amount to 2,000 on the banks of the Euphrates. The average power of which is 30 steam HP. Supposing that a steam HP is capable of irigating an average of 1.5,hec. the total lands irrigated by these pumps will be 90,000 hectares. As the agricultural rotation hitherto applied is binary based on giving rest to half the land, the total lands irrigated by pumping do not exceed 180,000 hectares.

If we imagine that a hectare requires 0.5 litre/second during the four summer months, the volume of water to be supplied by the Euphrates for irrigating all the irrigated lands within its basin will not exceed one billion m^3 yearly or 4% only of the total river stream. In consequence the greatest part of the main hydraulic wealth remains unexploited.

It is possible that all suitable lands for cultivation in the Euphrates basin, amounting to 1,300,000 hectares, can be irrigated. If we suppose that a hectare would need 0.5 litre/second for a period of 6 full months of a year and that 15% of the water would be wasted either through evaporation or some other reason, the total quantity of water required for a hectare per year shall not exceed 9,000 m^3. On this basis the total quantities of water required for the irrigation of the agricultural lands of the Euphrates basin shall not exceed 11.7 billion m^3, equal to 47% of the Euphrates output which is less than the share of Syria from the water of this river amounting to 12.5 billion m^3. The hydraulic wealth of this river is sufficient for coping with the irrigation of lands within its basin without affecting its running stream or even the requirements of Iraq for water.

The attempt to irrigate all the lands in the Euphrates basin by augmenting the pumping machinery is not a sound solution for the economic reasons as hereby summarized:

a. The operation of pumping can be considered economic if lifting does not exceed 20 meters. If however this limit is exceeded, the operation will gradually lose its economical advantages. As to the Euphrates basin the total area of lands at a level not exceeding 20 meters of the river water level is less than 600,000 hectares, distributed as follows:

1. 250,000 hectares, the height of its level does not exceed 10 meters above river water level.
2. 340,000 hectares, the average height of which is not beyond 20 meters of the river water level. Of this, 200,000 hectares lie on the left bank and the remaining area of 140,000 hectares on the right bank. If we exclude the present cultivated lands in the Euphrates valley watered either by rain or by irrigation, 370,000 hectares in all, the amount of increase in reclaimed lands fit for pumping irrigation will not exceed 220,000 hectares or less than a quarter of the virgin lands which are not yet cultivated.

b. The average expenditure of pumping irrigation is three times that of free flow and about 15% of the value of agricultural production in irrigated lands. This high cost of production affects the operation of agricultural production which decreases the revenue of production and weakens the competition of Syrian agricultural exports in world markets.

c. It is certain that the expenses of free flow, comprising erecting gates and sluices, are higher in the preliminary value in proportion to preliminary expenses of pumping irrigation which will make its realization restricted to the Government and public establishments. However, the current expenses of free flow processes are very much lower than pumping irrigation which leaves no reason for comparison.

d. The operation of pumping irrigation necessitates the importation of motors, spare parts and consumption of abundant quantities of fuel. In many instances this is difficult to obtain due to shortage in hard currency which can be utilized in the various needs of the economic development for the Syrian Region.

From this it will be seen that the most suitable method for reclaiming and irrigating lands lying in the Euphrates basin calls for free flow requiring erection of reservoirs and deviation sluices and irrigation streams according to the needs of the lands requiring irrigation and the characteristics of the Euphrates bed and course.

Irrigation and Storage

As the technical studies for the irrigation of the Euphrates basin are not yet accomplished, we are displaying a general plan in the light of preliminary studies. We are therefore expecting a lot of alterations on completion of all topographical, geological, and hydraulic studies of the Euphrates basin including analysis of the soil. Map No. 3 illustrates the general frame of the proposed project.

The Economic Development Program for the Syrian Region aims at irrigating 800,000 hectares of the agricultural lands in the Euphrates basin, with an increase of 600,000 hectares to the amount of the existing irrigated lands. The methods of irrigation depend on the nature of the relative lands and the need of the lands for water and how to secure the required quantities from the river water.

If we consider that the agricultural rotation for the lands requiring irrigation will be on the basis of cultivating 2/3 cotton and giving leisure to the remaining 1/3 in summer, and cultivating 1/3 cereals, 1/3 clover and other cattle food and giving leisure to the remaining 1/3 in winter, instead of applying the present agricultural rotation based on giving permanent leisure to half of the irrigated lands which calls for the supply of the lands requiring irrigation with a rate of 0.65 litre/second in summer and 0.25 litre/second in winter per hectare. The 800,000 hectares will therefore require a rate of 520 m^3 in summer and 200 m^3 in winter. If rain water in winter saves half of the water which would have been consumed by the winter cultivated lands, this would necessitate the provision of quantities of water for the whole period of irrigation (being 120 days in summer and nearly the same period in winter), estimated at 5.4 billion m^3 in summer and about one billion in winter, making a total of 6.4 billion m^3. If we suppose that during the distribution of water 15% is wasted by evaporation and infiltration, the total quantities of water required will become closely to 7.4 billion m^3 per year.

This estimation does not contradict our previous estimation on irrigation needs based on fixing an average of 0.5 litre/second for six months in the year which brings the figure to 9,000 m^3 per hectare per year.

The required quantities of water are available in the flowing course of the Euphrates which does not exceed 30% of its flowing waters in the year. There is no difficulty in obtaining the required quantities of water during winter in which the river water level rises and exceeds the average limit by 800 m^3/second.

During the dry months of the summer season, when the demand for water increases while the river water level is below the average limit, the quantities of water cannot be secured before storage of water during flood in winter for utilization in summer months.

If we take the average of the Euphrates course at Meskana during the years 1930-40 as basis for the possible storage from the flowing water ranging from 182 m^3/second as minimum in September for 1,737 m^3/second as maximum in April and if we put aside 400 m^3/second for Iraq needs, it is easy to store at least 9 billion m^3 of the Euphrates water during the period starting from beginning of January to end of June every year. This exceeds the quantities needed for irrigation amounting to 7.4 billion m^3 only. On the other hand if we include flood water into our calculations, the figure for storage may rise to 20 billion m^3.

As to the capacity of the reservoir, this depends on the nature of needs in respect of irrigation and hydraulic power. With regard to the proposed irrigation program, the quantity required is 7.4 billion m^3, to be included quantities evaporated and other quantities sedimentating at the reservoir base totalling 100 m^3/second the capacity of the reservoir should be raised to 10.5 billion m^3 or preferably 12 billion m^3.

If it is intended to irrigate all the agricultural areas in the Euphrates basin amounting to 1,300,000 hectares for which 11.7 billion m^3 are required, plus evaporation and sedimentation bringing the figure to 15 billion m^3, the capacity of the reservoir shall be calculated on the basis of 20 billion m^3.

It is possible to provide the quantities of water required for irrigation by constructing one or more reservoirs on the river bed. These can be substituted by constructing a series of deviating dams on the river bed and thus raise the water to the level of the irrigation and navigation canals dug on both banks of the river for providing water to the surrounding lands.

But these deviating dams will expose the low-lying lands in the Euphrates valley and behind it to the danger of flood becoming submerged with water on both sides of the river. For this reason it is essential to construct strong embankments to resist the flood pressures, especially in alluvium areas existing in the Euphrates valley. Furthermore the construction of these deviating dams will expose the river course to changes as the river course is far from being steady in its alluvium valley. The change in the river course may be increased by the construction of one or several main reservoirs which would be the only practical means for the realization of the irrigation projects proposed for irrigation projects in the Euphrates basin.

The selection of the site for the construction of the reservoir or reservoirs is connected by many factors, of which the suitability of the site towards the capacity of the dam and to the geology of lands in the neighborhood and the probable exposure of lands lying in front to be submerged with water and the subsequent effect on the river course. These are in addition to the main economic factor of expenditure and profits which can be obtained.

The preliminary studies, especially those which have recently been undertaken by the Soviet experts revealed that there are more than one site suitable for the construction of reservoirs on the Euphrates. Three sites have been appointed for this purpose. The selection of the species of exterior rocks of which the foundation layer shall be composed in those sites, proved that it is of solid limestone which resists the construction of these dams above them.

The detailed studies on the geology of the sites for these dams will determine the selection of the sites as well as other factors relating to capacity of storing, methods of irrigation to be followed after comparing the various expenditures of the two kinds of irrigation, i.e., the free flow irrigation and the mechanical pumping.

Place	First Site Kal'et Yussef Pasha	Second Site Hasra Village before Moskana	Third Site Tabka Village between Moskana and Rokka
Distance from river course from Jerablous (km)	78	103	198
Water level of river (in metters)	295	286	255
Water gauge in reservoir (in meters)	325	325	A- 325 B- 300
Amount of lifting (in meters)	30	29	A- 70 B- 45
Length of top of reservoir (in kilometers)	1	(3.5-4)	A- 4.5 B- 2.5
Area of Reservoir (in km^2)	130	(200-250)	A- 960 B- 570
Capacity of reservoir (in billion m^3)	23	4	A- 33 B- 5
Capacity of electric energy which can be obtained in 1000 kW	(100-140)	(200-280)	A- 400-450 B- 250-300

The site of Yussef Pasha is considered as the most suitable site from the economic point of view but owing to its limited area it will become alone sufficient for the proposed irrigation purposes as the mud borne by the river water especially during floods will surely accumulate and fill up the reservoir in 50 years if no technical steps are taken to sweep away the mud which leads to lowering the water level and interferes in the proper functioning of the electric power apparatuses.

The second site at Hasra the capacity of which, after deducting accumulated sediments, is not sufficient to irrigate more than 250,000 hectares of cultivated lands. This also applies to a great extent to (B) of the third site of Tabka as the possibilities of irrigation do not exceed 350,000 hectares. As to (A) proposal at Tabka, it is reliable for irrigating more than million hectares of agricultural lands and its capacity is greater than the estimated capacity of 12-20 billion m^3 for which need was explained in order to gain full exploitation of the hydraulic wealth available in the Euphrates.

As to the final selection of one or more reservoirs this will outstand pending the technical and economic considerations which will be arrived at consequent to the topographical and geological studies.

As regards the sites for the diversion reservoirs on the river course, the site at Halabia-Zalabia - 384 kilometers distant from Jerablous on the river course and on the water level amounting to 211 meters and where the breadth of the river decreases to 600 meters, is considered as a suitable site in respect of agricultural lands lying below this site and stretching for about 250 kilometers up to Bokamal.

There is another site 259 kilometers distant and 10 kilometers upwards Deir El-Zor which would enable the diversion dam, which will be constructed thereat, to irrigate the Mayadin valley by flush irrigation of an area not less than 25,000 hectares.

But the diversion dams will submerge most of the lands lying in the Euphrates valley.

Methods of Irrigation

It is difficult in this stage of studies to define methods of irrigation and details of irrigation process which can be recommended. The technical and economic studies may combine the method of flush irrigation to mechanical pumping and simultaneously taking advantage of the electric power generated at these dams for running the mechanical pumps.

The preliminary studies performed by the Soviet experts elicited that it is convenient to irrigate 770,000 hectares of the best agricultural lands in the Euphrates basin or a net area of 676,000 hectares. This area is distributed on the four agricultural zones marked on the attached map, which are:

1. Left bank of the Euphrates next to Yussef Pasha, totalling 8,000 hectares.

2. Right bank of the Euphrates consisting of the Aleppo Plateau - Moskana, having an area of 98,000 hectares.

3. Lands which can be irrigated by the third reservoir at Tabka site. Area: 240,000 hectares.

4. Lands which can be irrigated by the diversion dam at Halabia-Zalabia, by other minor dams. Area: 330,000 hectares.

It is possible to irrigate 365,000 hectares of this area by flush irrigation and the remainder, i.e., 311 hectares, can be irrigated by mechanical pumping which will need 170,000 KW of electricity. The difference of level in case of mechanical pumping vary between 20 and 120 meters. This level is undoubtedly high and may prove unsuitable from the economic point of view.

These calculations are preliminary based on the following:

a. Yussef Pasha dam to be dispensed with.

b. Limiting the dam level at Tabka at 288 metres which is lower than the two proposals A and B of the reservoir there.

c. Raising the water level for the diversion dam at Halabia-Zalabia to 220 m., an increase of not more than 10 m. to the level.

If a reservoir is constructed at Yussef Pasha on a level of 305 meters, it can irrigate 73,000 hectares net of agricultural lands. If this level is raised to the maximum, i.e., 325 meters, this area of land could be doubled but the main irrigation canal taken from its water intake and stretching for 100 kilometers throughout rugged localities will increase the expenses of free flow which will thus be realized.

The rising of Tabka dam level to its minimum limit of 300 meters will increase the irrigation possibilities and also the increase of the deviating dam level at Halabia-Zalabia to above the level of 220 meters, will realize another increase in the irrigated lands below the Euphrates plain basin.

It will therefore be evident that the irrigation of the 800,000 hectares recommended in the existing Development Program can be conveniently undertaken.

As regards the methods of irrigation and any other details, these will be decided upon as soon as the standing technical studies for the exploitation of the Euphrates basin in a way conforming with the final sites selected for the reservoirs and deviating dams, have been accomplished. It is expected that the preliminary studies will be completed at the end of 1959 and the final plan will be laid down at the end of 1960. The whole schemes and details will be ready at the end of 1961.

Other Advantages and Expenditures

The ten-year projects for the Economic Development in Syria are not restricted to the irrigation of 800,000 hectares in the Euphrates basin but that the organization of the river bed and construction of reservoirs and deviating dams will obviate the danger of floods to which the villages and agricultural lands lying in the river valley are exposed. Furthermore the regulation of the Euphrates flow, after Syria having obtained her water need, will also guarantee a regular share for Iraq not less than 400 m^3/second, which is by far a sufficient quantity for coping with Iraq requirements and thus getting rid of flood risks.

The standing studies also aim at regulating navigation throughout the river course in Syria and to a considerable distance in Iraq. It is also decided to construct navigation locks at the selected dam sites the dimensions of which are not less than 100 meters long, 15 meters broad and 5.5 meters high, in addition to a fish-breeding station not less than 10 meters.

As to the hydraulic energy which can be obtained from these reservoirs, it is evident that the electric power which can be derived from these reservoirs varies within 100 and 450 thousand KW. Consequently the present program aims at obtaining an energy amounting to 100,000 KW in the first stage which will gradually increase up to 300,000 KW. This energy will provide every individual in the Syrian Region with 250 to 300 KW/hour. This cheap energy will be transmitted to Aleppo and other industrial zones in the middle of Syria to benefit by this cheap energy.

This energy is complementary to irrigation projects and supplementary product, despite its value in raising the level of living in the Euphrates basin and throughout Syria.

It is decided that all studies will be finished by the end of 1961 and execution of works will directly start. It is determined that all projects for the Euphrates basin will be accomplished in 1967. It is possible that advantage could be obtained of the river water in irrigation and in generating electric power as from 1963.

The total expenditure of this project is estimated at L.S.1,140 million, including all costs for constructing dams irrigation sluices, electric generators and transmission of power to Aleppo and other places.

The economic advantages gained by these projects lie in the following:

1. Irrigation of an area of 800,000 hectares of agricultural lands in the Euphrates basin (i.e. at the rate of L.S.1,425 per hectare of land). This means an increase of the present irrigated lands by 600,000 hectares.

   This area which shall be irrigated will be approximately distributed, of which the State will have the share of 500,000 hectares and the remaining 300,000 hectares will be owned by private individuals.

2. Generation of electric power. This has been preliminary estimated at not less than 100,000 KW reaching 300,000 KW on completion of the projects for the Euphrates basin.

In addition to other advantages which have already been referred to.

With regard to the revenue of these projects and the economic advantages which will be obtained, these will be dealt with at the conclusion of this report.

El-Khabour Basin

River Course

The Khabour and its main tributary "Wadi Gaghgagh" spring out from Turkey, but the important water springs and other rivers' tributaries feed this river.

This river derives its waters during most of the months of the year from "Ras El-Ein" springs lying in the north eastern angle of the Jezirah Governorate in Syria. From these springs great water flows accumulate in the Khabour. These springs are the most powerful springs in the Syrian Region, their average power being 32 m^3/second.

The Khabour runs in a narrow zigzag valley, the breadth of which varies from 30 to 100 meters and discharges its waters into the west bank of the Euphrates intermediating Deir El-Zor and Mayadin. It is therefore considered as the main tributary of the Euphrates. The Khabour runs at its full length of 450 kilometers within the Syrian Region thus giving Syria the full right for exploiting its water.

The characteristics of the river are summarized as follows:

Site	River Course Kilometers	Water Level Meters	Remarks
Ras El-Uyun	-	347	The source
Tel Maghas	67	310	Point of branching off
Hasga	124	294	
Gaghgagh river	125	293	

Site	River Course Kilometers	Water Level Meters	Remarks
Saba' Soukhour	138	289	Point of feeding of the 7 irrigation canals
Nebian	166	275	
Tel El-Fadghami	270	242	
Merkada	310	230	Site for reservoir
Swar	366	214	Point of branching off and Suspension Bridge.
Basira	445	187	Bridge across Khabour
Euphrates	446	187	Mouth of the river

The slope of the river course varies. The proportion gradually decreases until it reaches 100 cm/km in the course of the first 25 kilometers while it drops down to 30 cm/km at the last part of its course. The average slope is 35 cm/km.

The Khabour main tributaries are four, as hereby detailed:

Tributary	Khabour Bank	Distance from River in Kilometers	Water Level in Meters
Nim Kanasu	Right	3	343
Gargab	Left	23	325
Zarkan	"	61	314
Gaghgagh	"	125	293

The Gaghgagh is considered as the longest tributary. Its water disposal rises in winter reaching 8 m^3/second and its average disposal during the year is 3 m^3/second.

The water disposal of the River Khabour differs according to the seasons of the year. The tributaries of the river and the winter valley in which rain water accumulates and discharging their water in the Khabour causing increase in its water disposal. During the remaining period of the year the river flow is dependent on the water of the springs at Ras El-Ein and water emitting out from the underground in the Khabour valley.

The amount of water disposal of the Khabour, based on previous estimations, varies at a minimum of 34 m^3/second in August and rises to a maximum of 470 m^3/second in February. The average yearly disposal amounts to 53 m^3/second. The total year water disposal of the river ranges between 1400-2100 million m^3. But the water estimations undertaken during the last ten years by the Irrigation and Hydraulic Department give lower figures than those indicated above, ranging between 30 and 300 m^3/second with an average of 44 m^3/second and a yearly average of about 1400 m^3 of water.

Availabilities of Irrigation

Traces of old methods of irrigation which are still in application in Tobian, Fadghami, Swar, Seshar and others, can be observed in the Khabour basin. The ancient dams and the Rumanian irrigation canals are hitherto employed in irrigation purposes.

The Khabour water is now employed in irrigating some high lands lying on both sides, applying various means of irrigation lying in water-wheels and modern mechanical pumps. The irrigation works have tremendously expanded in the Jezirah Governorate during recent years.

The area of lands suitable for cultivation in the Khabour basin is more than one million hectares. A greater part of those lands is cultivated with cereals especially wheat and barley. The area of irrigated lands in the Khabour basin is only that cultivated with cotton. The area of the existing irrigated lands amounts to 50,000 hectares.

The soil of the Khabour valley and surrounding lands is excellent. It consists of sand, alluvium and medium clay. Whereas lands in the Khabour basin are enormously sloping with frequent undulations in the upper portion, this slope gradually decreases until it becomes nearly even in its lower plains which are idealistic in respect to possibilities of irrigation and cultivation which constitute the greater part of lands suitable for irrigation in the Khabour basin.

The Khabour basin lands lie in a zone where the quantity of rain varies between 100 and 500 mm. This yearly quantity increases especially in the north eastern angle of the Jezirah Governorate. This helps in cultivation by rain without need to irrigation, especially in the upper part of the basin. At the lower part of the basin the quantities of rain decrease below the requirements of cultivations dependent on rain water. It is possible therefore to cultivate suitable areas with various crops in winter mainly depending on rain water which is abundant there. As to summer crops calling for irrigation, the soil in this basin is suitable for the cultivation of cotton, rice, peanuts and beetroot.

It is difficult to estimate the needs of irrigation in the Khabour basin accurately except after the finishing of studies and researches still in operation. Owing to the variable quantities of rain in the Khabour basin, it is possible to estimate the need of a hectare from the irrigated lands for 0.5 litre/second for summer cultivation and 0.2-0.5 litre/second for winter cultivation for a period not exceeding 100 days for either kinds of cultivation. On this basis, the hectare would need in the Khabour basin 4,320 m^3 in summer and 3,000 m^3 in winter, making a total of 7,320 m^3 during the year. If we estimate water washed in evaporation and infiltration by 15%, the quantity of water needed for one hectare will be 8,400 m^3 during the year. The total quantities of water available in the Khabour will warrant the irrigation of not less than 200,000 hectares of agricultural lands. Even in the case of the lowest rate of the river water disposal, being 1,400 million m^3, this is sufficient for the irrigation of 166,000 hectares of agricultural lands in the Khabour basin.

The present ten-year program for development aims at irrigating 150,000 hectares of agricultural lands in the Khabour basin, i.e., an increase of 100,000 hectares over the existing irrigated lands.

It is possible to benefit by all availabilities of the Khabour, the total lands irrigated by the river could be raised to 200,000 hectares.

Methods of Irrigation

The Khabour basin can be divided into three main zones, viz:

A. The Upper Zone: stretching from Ras El-Ein to Hasga and lying alongside the Khabour course, the length of which is 125 kilometers.

This zone is extremely fertile and is distinguished by its abundant rain water ranging between 300 and 500 mm per year sufficiently coping with all varieties of rain cultivations.

B. The Middle Zone: stretching from Hasga to Shadada or Merkada. The Khabour runs in its course for about 185 kilometers. This zone is less fertile than the Upper Zone. The rate of rainfalls vary from 200 - 300 mm yearly, rendering cultivation by rain water possible.

C. Lower Zone: stretching from Merkada to the junction of the Khabour with the Euphrates and through which the river runs in its course for about 140 kilometers. The rate of rainfalls amounts to 100 to 200 mm yearly rendering cultivation by rain water inconvenient and therefore cultivation mainly depends on irrigation. The zone is characterized by its even level which facilitates flush irrigation.

On this basis it is possible to specify methods of irrigation approximately in conformity with the proposed program as shown in Map No. 4. The definite methods will be applied as soon as the running studies have been accomplished.

The proposed irrigation projects can be briefly explained according to the zones of the river basin.

A. Upper Zone

The irrigation of this zone stretching the Hasga calls for taking advantage of the high water level at the source of the river at Ras El-Ein and constructing a deviating dam on the river course amid this zone and erecting the necessary irrigation networks for irrigating the agricultural lands in this area by flush irrigation. This can be realized by the following:

1. A deviation dam on the river source at Ras El-Ein and the establishment of two main irrigation canals on both banks, the first stretching on the left bank for a length of 62 kilometers for irrigating 14,000 hectares, and the second stretching on the right bank for 37 kilometers for irrigating 8,000 hectares.

2. A deviating dam on the river course at "Tol Maghas" on a site 40 kilometers to the north-west of Hasga and also establishing two main irrigation canals on both banks of the river. It is possible to benefit by the old Roman dam. The first canal on the left bank of the Khabour between Tol Maghas and Hasga running until joining Gaghgagh River and further stretches up to "El-Safia" and reverses to surround Hasga. The length of this canal is about 68 kilometers from which auxiliary canals branch for about 125 kilometers in length, so that 9,000 hectares could be irrigated by free flow. The second canal on the Khabour right bank to stretch parallel to the irrigation networks of the first canal. It can irrigate 4,000 hectares.

There are also about 4,000 hectares of other lands lying to the north of Hasga which are ten meters higher than the river course level. These can be irrigated from the first left canal by pumping which is less expensive than to dig canals for free flow.

On this basis the irrigation canals and the sluice gates which will be erected on the two deviating dams will be capable of irrigating not less than 39,000 hectares of the agricultural lands of this zone.

B. Middle Zone

The irrigation of this zone stretching between Hasga and Merkada requires for benefitting by the Khabour waters and El-Taf valley through construction of deviating dams and irrigation networks in the following way:

1. Construction of a deviating dam 12 kilometers to the south of Hasga on the ruins of the Roman ancient dam at "Saba'Soukhour" with sluice gates capable of irrigating 10,000 hectares on the left bank of El-Khabour and 5,000 hectares on the right bank.

2. Construction of another deviation dam at "El-Taf" 16 kilometers to the south of "El-Taf" on the ruins of the ancient dam with two intakes for feeding the two main canals on both banks of El-Taf, a tributary of the Khabour. The length of this proposed earth dam is 670 meters and a height of about 15 meters, The first canal on the right bank stretching for 14 kilometers is capable of irrigating 15,000 hectares. The second irrigation canal, stretching for about 10 kilometers, could irrigate 6,000 hectares.

On this basis the total **area** which could be irrigated in this zone will become 36,000 hectares.

C. Lower Zone

This zone stretches from Merkada site until where the Khabour joins the Euphrates. It comprises the wide plain enclosing about 250,000 hectares of lands suitable for cultivation in the Khabour basin. This zone is distinguished for its sandy and alluvium sediments which, when irrigated, will become suitable for the cultivation of all varieties of summer and winter crops.

It is not possible to irrigate the balance of 75,000 hectares in this zone by constructing deviating dams only, because the irrigation of the Upper and Middle zones out of the Khabour course will not leave the minimum from the river disposal for irrigating this zone, especially in the summer dry months when the need for water for irrigation reaches the apex. For this reason the Khabour waters should be stored for the irrigation of this zone.

If we estimate the need of one hectare for irrigation in summer for 0.5 litre/second, the irrigation of 75,000 hectares in the Upper and Middle Zones will require a flow of not less than 38 m^3/second. If we consider that the average water disposal of the Khabour during 1932-40 as basis of our calculations, the average annual disposal ranges between 40 and 90 m^3/second, i.e., an average of 53 m^3/second. On this basis the minimum water disposal of the Khabour, being 40 m^3/second should be restricted to the needs of the first two zones in its basin. If storage starts in October and continues up to the end of April every year, the average disposal exceeds the estimated needs by 40 m^3/second which are sufficient for securing 400 million m^3 of water.

The quantity of stored water, however, is not enough for irrigating 75,000 hectares in the Lower Zone which calls for 630 million m^3 on the basis that one hectare needs 8,400 m^3 per year. This quantity could be secured from the river water by extending the period for storage to start before October and end after April and also by taking benefit of the flood water during the winter months for which no account having been made in making the average for the river water disposal. There is no fear that this quantity shall not be available as long as the average minimum of the river water disposal is above 1,400 million m^3 while the total needs for the two zones, the Upper and Middle Zones of the Khabour, are not beyond 630 million m^3 for the whole year.

The net storage of water in the proposed reservoir shall, therefore, be not less than 700 million m^3 and if we add the amount of wastage due to evaporation and leakage from both sides as well as sediments in the bottom, the capacity of the reservoir should not be less than 800 million m^3.

As to the selection of a site for the reservoir, this depends on many factors, the most important of which relates to the geology of the site and other economic factors. It appears that Merkada site, 310 km distant and 230 meters above the river level, is the most suitable site as the ground is basalt which is strong waterproof and serves as concrete foundation for the reservoir. There is also another site at Fadghami hill at a distance of 270 km of the river course and 242 meters above water level which may be suitable. But Merkada is preferable on account of the existing plateau in close proximity to the right bank which will decrease the length of the reservoir but the slight slope of the left bank of the river in this vicinity will help in the accumulation of alluvium in its basin which will create technical difficulties in its construction. These must be overcome.

The preliminary studies indicate that the reservoir at Merkada will be of the kind of earth or filling stone stretching for 4 km long and 30 meters high with a storage capacity of 800 million m^3.

The construction of Merkada reservoir and heightening the water level up to 250 meters will guarantee to provide the two main irrigation canals on both banks and the sluice gates with more than 45 m^3/second during the six summer months which is by far in excess to the requirements for the irrigation of the 75,000 hectares proposed in this zone.

There is possibility for the construction of another deviating dam at Swar, 366 km distant from the river course with a sea level of 214 meters which will help in irrigating the lower part of this zone.

From the foregoing review it will be elicited that a total area of 150,000 hectares of agricultural lands can be irrigated in the Khabour basin.

Other Advantages and Expenditures

Besides the prevailing irrigation possibilities in the Khabour basin, it is also possible to benefit by the water springs, which will exist in deviating dams and reservoirs for generating electric power, exceeding 26 million KW/hour during the year to be utilized in the river basin and also taking advantage of the total slopes of 160 meters throughout the river course.

The existing program for the exploitation of the Khabour waters is only restricted to irrigation purposes which realize the irrigation of 150,000 hectares of the lands in the Khabour basin only.

Out of the proposed irrigation projects for the Khabour basin, very few have been accomplished and only in parts for which minute studies have been undertaken. A part of the Maghas Hill - Hasga project has been executed while work started at the end of 1942, but it was suspended due to restrictions caused by World War II. The main water intake and a part of the main irrigation canal on the left bank of the Khabour have been completed. The remaining portion of the canal is hoped to be accomplished by the end of next year (1959).

The Soviet experts are undertaking complementary studies in virtue of the technical co-operative and economic agreement for the irrigation projects in the Khabour basin. It is supposed that these studies will be concluded in the middle of next year, after which executive works will follow which will be accomplished by the beginning of 1964. Subsequently the reservoir, the deviating dams and sluice gates would be capable of irrigating the specified area of agricultural lands in the Khabour basin.

Expenditures of the whole project amount to approximately L.S.160 million which conform with the estimation of the Organization in respect of the irrigation of 70,000 hectares of the basin, giving the figure of L.S.75 million at the rate of less than L.S.1,100 per hectare.

Out of the lands which will be irrigated, 50,000 hectares are private and 100,000 hectares are State property.

El-Asi Basin

The Asi river springs out from Lebanon and runs northward inside the Syrian Region discharging its water in the Mediterranean at Alexandretta district. Its course in Syria is 325 kilometers, out of its total length of 570 kilometers.

The Asi follows its regular course after it is joined by the waters coming from the springs of Ein Zarka and others from the Harmel area. From the point of junction onwards its flow becomes constant all the year round. The river disposal after it has left Lebanon varies between a minimum of 9 m^3/second in winter to a maximum of 16 m^3/second in summer. The river flows to be joined by small springs and rain water accumulated in its basin until it discharges its water in Lake Homs, with a minimum disposal of 6 m^3/second in summer. The River Asi is joined at this lake by a number of seasonal norias, and underground springs, the quantities of water of which cannot be limited. From this lake the Asi flows regularly northward passing through Homs and Hama and bending towards the Asharna and El-Ghab Plains until it leaves the Syrian Region.

Characteristics of El-Asi River

Site	River Course Kilometers	Height above Sea-Level Meters
Source	-	657
Harmel	8	586
Homs Lake (Katina)	61-74	498
Hama	194	265
Jisr Sejar	255	186
Jisr El-Asharna	291	175
Karkour	381	162
Jisr El-Shagour	390	128
Jisr Darkoush	420	101
Sedia	570	-

The river course can be divided into three divisions, viz:

Upper Basin: Stretching from Ein Zarka until it comes out of Lake Homs (0-75) kilometers. This part of the River flows between Syria and Lebanon.

__Middle Basin__: Stretching from the exit of the river from Lake Homs to Karkour (75-380) kilometers. This part falls inside Syria and comprises El-Asharna and El-Ghab Plains.

__Lower Basin__: Stretching from Karkour until the mouth of the river at Sweidia (380-570) kilometers. The great part of the river basin falls in the lands which had been occupied by Turkey.

The flowing of the river varies in pursuance of seasons and variations of sites. On leaving Homs Lake the rate of water disposal of the river in summer and winter ranges between 6 and 40 m^3/second. The change in the flow is markedly apparent in its middle basin due to rainfalls and numerous springs causing high floods to the river. The river disposal drops down to the minimum in this zone during September and months of dryness and rises up to the maximum at the end of the winter in February and March. The average water disposal of the river can be estimated as follows:

At Hama	6 to 285 m^3/second
Sejar	5 to 336 "
Asharna	13 to 120 "
Karkour	18 to 180 "

The gauges for the river water disposal for the period 1931-40 indicate that the average flow of the river at Asharna ranges from 13 to 57 m^3/second and at Karkour from 18 to 79 m^3/second. The difference between the river disposal at Karkour as compared with its disposal at Asharna is attributed to the abundant springs prevailing at El-Ghab valley which feed the river bed.

In the light of available information in respect of the river flow, the average rate of the river disposal during the year amounts to about 35 m^3/second. The total amount of its annual disposal is therefore not less than 1,000 million m^3.

It is difficult to give an accurate account for the river floods. If we take the maximum floods during the past 20 years as basis, the limit of disposal for dehydration of El-Ghab valley amounts to 350 m^3/second. After the construction of the two reservoirs on El-Asi at Rastan and Moharda, the river disposal can be estimated, as a maximum, at 215 m^3/second at Sejar and at 275 m^3/second at El-Kafira and Karkour.

__Possibilities of Irrigation__

The Asi basin in Syria falls in a zone where rain water is abundant. The yearly amount of rainfall in this basin varies from 300 mm in the eastern portion to more than 1,000 mm in the mountainous region surrounding its course.

The soil of El-Asi basin is generally suitable for agriculture after dehydration of swamps and regulating the irrigation networks required for cultivating the various summer and winter crops. The soil is of variable fertility as will be shown later.

Preliminary analysis of the soil discovered the lack of calcium in some zones or in the fauna or the flora of the vegetables and cattles. This can be remedied by the use of fertilizers.

The need of lands suitable for cultivation for water during the interval of irrigation varies from 0.2 to 0.5 litre/second per hectare. Estimation of the necessary quantity depends on the nature of the soil and kind of agricultural crops or the agricultural rotation followed. Furthermore it depends on the quantities of rain water available during the winter.

If we consider that the abundance of rain water in El-Asi basin is sufficient for winter cultivation, irrigation needs will be confined to summer months. On the basis that one hectare requires a maximum of 0.5 litre/second for an irrigation period not exceeding 100 days during the summer, the hectare would absorb 4,320 m^3 of water. If we add the amount of water wasted by evaporation and escaping from sluice gates reaching 15%, the need of one hectare will not exceed 5,000 m^3. In view of this calculation, it is certain that the river output will provide for the irrigation of not less than 200,000 hectares of agricultural lands in its basin.

The irrigation of this area will necessitate a maximum output of not less than 100 m^3/second. This amount in the river flow is only available during the winter months or during floods. This flow drops down in summer months to its minimum scale. For this reason it is essential that reservoirs will have to be constructed on the river course for irrigation of this area with the object of regulating its flow to provide the irrigation requirements. Furthermore, the process of irrigation also necessitates the construction of deviating dams, irrigation canals and sluice gates.

The river basin is distinguished for abundant manpower which will easily undertake the operations of reclamation of lands and expansion of irrigation works in this vicinity which will lead to prosperous developments.

Irrigation Projects

El-Asi river is at present utilized for domestic purposes, providing many of the towns and villages lying on both banks with water for domestic and industrial purposes. The river water falls are utilized in generating electric power at the rate of 8 m^3/second at the power station in Agramis. But the river water is mainly utilized in irrigation and agriculture. The area of existing irrigated lands in El-Asi basin is about 50,000 hectares distributed as follows:

In the Upper Basin and above Homs Lake	6,000	hectares
In the Homs-Hama zone	22,000	"
In El-Ghab and El-Asharna valleys	22,000	"
Total	50,000	"

Several methods are employed in their irrigation, i.e., ancient Roman water streams, norias and water-wheels, and also the modern mechanical pumps.

The present water consumption of Homs-Hama zone for irrigation purposes equals to a regular flow of 6.3 m^3/second. Most of the lands of this zone lie in a locality where the average rainfall is about 400 mm yearly.

The ten-year project for Economic Development aims at the irrigation of an area of 110,000 hectares of agricultural lands in El-Asi basin. This area is distributed as follows:

El-Asi Upper Basin: until the river flows out from Lake Homs. The area of lands referred to in the present irrigation project amounts to 40,000 hectares.

El-Asi Middle Basin: after Sejar or El-Ghab project including El-Asharna and El-Ghab Plains. The land included in the present irrigation project is estimated at 70,000 hectares.

In addition to irrigation purposes, the project aims at benefitting of the water falls in El-Asi Basin for generating cheap electric power for utilization in industrial and domestic purposes by the inhabitants of this zone.

We will review a concise description of these purposes in respect of irrigation in El-Asi Upper Basin and in generating electric power.

As to El-Ghab project, the review will be more circumstantial in view of the relative technical studies having already been undertaken. Map No. 5 illustrates the frame of the project.

El-Asi Upper Basin

Lake Homs or Katina serves as a natural reservoir on account of an old dam which existed at the mouth of the river in this lake in the Roman epoch. The highest level of water in this dam is 502 meters whereas the normal level varies between 497 and 500 meters. It is considered that the level of 500 meters is the maximum level for water storage in the lake. The extent of storage is about 200 million m^3 of water, forming an area of about 6,000 hectares. The amount of water wasted by evaporation is nearly 120 million m^3 during the year. The lake is fed, in addition to El-Asi water, by seasonal norias and water wheels and underground springs, the amount of water of which could not be estimated, but it is certain that it will compensate for the evaporation and for regulating the flow of the river to the lake in such a manner as to guarantee the minimum limit which is not less than 8 m^3/second. The output of the lake during summer months for irrigating the lands lying to the north is estimated at 38-58 million m^3 with an average of 55 million m3 of water. (The right average is 48 million m^3).

The main zone for which irrigation is required in El-Asi Upper Basin lies to the south-east of Lake Homs. This area is suitable for the cultivation of cotton and beetroot during the summer and cereals and cattle forage in winter.

The present project aims at digging two canals alongside the river course above Homs Lake at a distance of 57 kilometers from the dam. The right canal, having a length of 77 kilometers and an output of 7.4 m^3/second, will irrigate an area of 32,000 hectares, whereas the left canal, 20 kilometers long with an output capacity of 1.7 m^3/second, will undertake the irrigation of 8,000 hectares. Irrigation by these two canals will be by flush irrigation and sluice gates.

Therefore this part of the project will realize the irrigation of 40,000 hectares of lands suitable for cultivation in El-Asi Upper Basin.

El-Ghab Project

El-Ghab valley stretches across a sedimental plain complementing a chain of low lands in which the Dead Sea, the Jordan and Litany valleys and El-Boka plain exist. This valley starts from the zone where El-Asi river discharges its waters in Sejar channel and stretching across the Asharna and El-Ghab plains and swamps and terminating at Karkour at a distance of 9 kilometers from El-Shaghour Bridge. This valley is 68 kms long, although El-Asi course between Sejar and Karkour exceeds 125 kms. The gradients of the river in this valley varies between 4.5 and 20 cm/kilometer. El-Asi river crosses El-Ghab valley after leaving the basalt layer near El-Kafir village and extends its course up to Shaghour Bridge.

El-Ghab project comprises the reclamation of lands lying in Asharna and El-Ghab plains. The Asharna plain extends to the east-west direction for a length of 15 kilometers and covers an area of 28,000 hectares, a small part of which is formed of hills but the great part constitutes plains and swamps at a level lower than the river cource. El-Ghab plain extends from south to north surrounded by El-Elwiyeen mountains to the west and El-Zawya mountain to the east. Its length between Asharna and Karkour is 50 kilometers and its average width is nearly 10 kilometers. The surface of El-Ghab plain is levelled probably due to its having been an ancient lake. The area of El-Ghab valley is about 50,000 hectares of which the swamps cover 35,000 hectares.

The whole zone of the project lies in a region where the yearly rainfalls vary between 600 and 1,000 mm with an average of 700 mm.

El-Ghab valley is full of a surface layer of brown soil, of sea origin, composed of sand and lime which is waterproof. It is approximately 60 meters thick at Sakilbia highland and El-Shaghour bridge. The layer is covered with alluvium which makes it very rich soil for agriculture. The basalt stone exists in the north part of the valley and in the west of El-Ghab.

The presence of waterproof sediments near the ground level will prevent water soaking into the underground layers. This leads to water accumulations caused by El-Asi floods, water torrents and numerous springs existing in this valley, the yearly flow of which reaches 17 m^3/second which constitute swamps in El-Ghab valley.

Due to the presence of the basalt layer to the north angle of El-Ghab and the high level of the water course above the valley plains, the river is unable to drain the water of those swamps and therefore the public can make use of them, when they are dehydrated in the summer these swamps are cultivated with summer crops such as cotton, maize, etc. Other lands in El-Ghab valley, excluding swamps, are mostly owned by private individuals.

The project aims at irrigating all lands suitable for cultivation after dehydrating the swamps. The area of these lands are hereby estimated:

In the Asharna Plain	28,000	hectares
In the Ghab Plain	44,000	"
	72,000	"

The total area of lands which will be irrigated shall not be less than 70,000 hectares, of which 22,000 hectares are at present cultivated. The remaining area, after being reclaimed, will be suitable for the cultivation of rice, cotton, beetroot, pulse, in summer, and cereals and forage in winter.

The project works include the operation of dehydrating swamps and getting rid of floods. In the meantime making use of water falls in generating electric power. The project also aims at reclaiming the lands and constructing model villages for habitation, agricultural centers, fish breeding in special cisterns and organizing production.

Project Works

The idea of dehydrating El-Ghab and reclaiming its lands is rather an old idea which was investigated by the Romans and also during the Turkish occupation, but the practical steps in the execution of this idea only started in 1951 when the Syrian Government instituted El-Ghab Organization which undertook study of this project. The execution stages started in 1954 and it is hoped to be completed before 1962.

The works of the project include:

I. Dehydration

Measures for drainage required to be adopted include the following:

(a) Deepening and widening the river course between Karkour and Kafir for a length of 4.5 km and a width of 11-20 meters, and a depth reaching 10 meters to shutter the basalt layer in the river bed near Kafir so that the river could drain water up to the maximum limit of 350 m^3/second. This has been accomplished at the end of 1956.

(b) Transferring the river course from south of El-Ghab near Asharna village, to the low lands lying in the middle of the plain between the present river course and the foot of El-Elwiyeen mountain. The new course will extend to the north to Karkour with a length of 58 kilometers and a base width of 28 meters. The new course will provide a maximum of 275 m^3/second. The quantity of excavation of the main course is approximately 11 million m^3 of earth. It is expected that this operation will be finished in 1959.

(c) Construction of two canals in the middle of the plain lying between the present river course and the foot of the Zawya mountain with a total of 47 kilometers extending from west of El-Sharia to the north until the point of junction with the new El-Asi course. Amount of excavations are estimated at 2 million m^3 of earth. Works are expected to be completed in the beginning of next year (1959).

(d) Construction of two dams on El-Asi river opposite Sejar and near Meharda to lessen the gravity of floods on Asharna and El-Ghab Plains. It will be made of filling stone at a height of 40 meters and a length of 100 meters. This will raise the river water level to 227 meters. The dam will include a drain tunnel having the capacity of 150 m^3/second and a flood drain having the capacity of 750 m^3/second.

(e) Construction of a complete sluice gate with secondary and branching canals, 700 kilometers long in the Asharna and El-Ghab plains. It is arranged that the work shall be completed in the beginning of 1960.

II. Storage and Irrigation

The quantities of water required for lands to be irrigated during the period of irrigation between October and April vary between 12 and 36 m^3/second.

The maximum quantities of water required for the irrigation of lands referred to in the project during the period of irrigation are below 550 million m^3 annually. Of these quantities not less than 250 million m^3 can easily be supplied by springs which are formed at the surrounding mountain feet, the balance of 300 million m^3 must be provided by the river flow and by reservoirs which shall be constructed.

The geological, hydraulic and economic studies proved that the most suitable site for the construction of a reservoir is near to Rastan. There is also another site near to Karma village, the storage of water at which will help in lessening the pressure of floods at the Tar El-Ola and El-Ghab plains. Necessity also calls for the construction of a deviating dam for distributing water by means of sluices at El-Ghab zone.

It is decided that the deviating dam will be constructed of filling stone at a maximum height of 70 meters and a length of 380 meters. The water level of the river will rise to 372 meters. The capacity of the dam is approximately 250 million m^3 of water. The skeleton of the dam will be formed of stone, the volume of which is nearly one million m^3. The water detainer will be formed of clay and pottery having the volume of 200,000 m^3. The dam will also comprise:

1. Flood drain equipped with three gates sufficient for draining 1500 m^3/second.

2. A tunnel 400 meters long and 6.6 meters in diameter for transmuting the river water during the process of the dam construction, to be employed in distributing water on the irrigation canals, having the capacity of 350 m^3/second.

3. Tunnel 520 meters long, 3.2 meters in diameter to be reinforced for providing the needs of the electric generators for operating two meters having a total capacity of 7,500 KW.

4. Other supplementary works, habitations, offices and construction of a new road over the dam.

The construction of this dam was entrusted to a Bulgarian firm which has undertaken work in September 1958. It is expected that work will be accomplished in three years.

The capacity of the other reservoir at Karma is estimated at 40 m^3. with a height of 45 meters and a length of 160 meters. It will be constructed of filling stone. The earth dug out of excavations is estimated at 3,600,000 m^3.

It also includes the construction of a tunnel of 100 meters length and 3 meters diameter for transmuting river water during the period of construction and for providing the irrigation canals with water after completion of the reservoir works.

Also included is a flood drain for draining 600 m^3/second and other supplementary works consisting of offices, habitations, roads, etc...

The Asharna dam will be a deviating dam for distributing water to the two main irrigation canals in the Ghab zone. It will be constructed of concrete.

III. Means of Irrigation

The Karma reservoir will provide the two main irrigation canals in the Asharna plain with water after raising its water level. The right bank canal which is 56 kms long and having a capacity of 5.5 m^3/second will irrigate 10,000 hectares, whereas the left bank canal, 81 kms long with a capacity of 9.5 m^3/second is capable of irrigating 18,000 hectares. Supplementary canals, having the total length of 270 kilometers, will branch from these two main canals.

As to El-Ghab plain, this will be irrigated by means of 4 main canals for irrigating an area of approximately 44,000 hectares. The Asharna deviating dam will provide water to the two main canals. The right canal will run parallel to the foot of the Zawya mountain and extend to Karkour with a total length of 50 kilometers and 3.7 m^3/second capacity and will irrigate 12,000 hectares. The left canal will run parallel to the foot of El-Elwiyeen mountain for a length of 59 kms and a capacity of 5.5 m^3/second and will irrigate, with the aid of springs, an area of 10,000 hectares. It is also decided to construct another deviating dam at Amorren village for transmuting the El-Asi water from its present course to a canal 74 kilometers long, which, together with springs at Ein El-Tafa, will irrigate lands lying on both banks of El-Asi up to Karkour, amounting to 17,500 hectares.

There is the fourth main canal running from the springs at El-Madyak Fort having the length of 23 kilometers and the capacity of 5.6 m^3/second. This canal will irrigate the lands lying parallel to the west drain canal, the area of which is estimated at 4,000 hectares. This canal will also feed the fish stations lying at close range.

The irrigation networks comprise branching and secondary canals in El-Ghab plain, the length of which total 560 kilometers.

IV. Fish Breeding and Other Works

The Ghab project includes also the establishment of artificial lakes for breeding fish. Two basins will be constructed for this purpose.

1. The first to be adjacent to El-Hawash village and Lahkia, the area of which is about 500 hectares.
2. The second lies at El-Sharia El-Gamasa village with an area of 200 hectares.

These fish breeding stations will be fed with the springs at El-Madyak Fort, Ein El-Taka and El-Sharia river. Special care will be given to salmon. It is expected that these two stations will give an annual output of 1,000 tons of fish.

The project also recommends the construction of roads for linking villages and centers of the project with the main towns. These roads will help in controlling and maintaining all works of the project. Those consist of main and levelled roads, 110 kilometers long and supplementary levelled and unlevelled roads with the total length of 700 kilometers.

The project also includes the construction of a model village and agricultural testing centers and co-operatives and any other works connected with rural reforms.

V. Exploitation of Lands

The red soil of the two plains of the project is mostly rich with organic sedimental substances. On analysis the soil was definitely classified into 17 kinds according to their agricultural efficiency. These lands were classified under six main categories as far as its possible reclamation and amount of its agricultural profits are concerned, taking as basis the quality of the soil and the suitable cultivation rotation. The selection of crops depended on the needs for irrigation, drainage and amount of economic benefits.

The recommended cultivation rotation includes 3 to 4 years and on this basis the lands suitable for cultivation were grouped into agricultural units, the area of each unit varies from 8 to 150 hectares. The unit of 25 hectares was considered enough to cope with the needs of five families consisting of 25 members which indicates that the Ghab project will provide livelihood to more than 70,000 persons.

20,000 hectares have been temporarily given to farmers who are not owners of lands until all reclamation of lands has been completed. These will be permanently distributed on farmers in conformity with the State policy which gives the farmers the privilege of refunding its value on reasonable long-terms. In the light of experience, a law on distribution and exploitation of lands will be laid down.

The Hydraulic Energy

The project for the electrification of El-Asi aims at the study of the river course from its southern boundaries near Harmel to the north of El-Shagour bridge for benefiting by the sloping course in generating electricity. This will be on the basis of making advantage of the water springs in Lake Homs and of the reservoirs and deviating dams which will be constructed for irrigation purposes.

The agricultural and industrial developments in El-Asi area depend largely on its being provided with cheap electric power, especially for use in the sugar, vegetable oils, milk and fertilization industries.

Preliminary studies made on estimating the minimum amount of electric power that could be generated from the main reservoirs and deviating dams give this amount at not less than 23,000 KW.

On the other hand the preliminary report made out by the Soviet experts shows that the electric power that could be generated from Lake Homs amounts to 3,000 KW which will be obtained by drawing water from the lake by means of a pipe or a canal 2.5-3 kilometers long to the east of El-Asi river which will realize a fall between 13 and 18 meters provided that the average disposal will correspond with the requirements of Rastan station, i.e., at the rate of 8 m^3/second.

At the Rastan dam, the two electric motor generators in its base can operate by a maximum fall of 53 meters, but the generation operation will be on the basis of water fall varying from 30-50 meters so that a permanent energy of not less than 7,500 KW can be generated which is more than the double energy generated at Ghagrambir center. This dam can also generate a seasonal energy not less than 5,000 KW.

As to the other dams, the Karma and Shaghour bridge dams are capable of generating seasonal power not less than 7,800 KW.

On this basis, the minimum energy which could be generated can be estimated in the following way:

Electric Power which could be Generated in KW

Site	Permanent	Seasonal	Total
Lake Homs	3,000	-	3,000
Rastan Dam	7,500	5,000	12,500
Karma Dam	-	2,800	2,800
Shaghour Bridge Dam	-	5,000	5,000
Total	10,500	12,800	23,300

The total electric power which can be generated during the year will not be lower than 100 million KW/hour or more than two-third of the total consumption of the Syrian Region in 1956.

It is difficult to estimate the cost for generating the electric power from the water falls of El-Asi. However, these costs will not reach those of the thermal generators of the electric power as the cost per KW/hour is not beyond 2¼ Syrian Piasters which is lower than quarter of the present fee amounting to 9 Syrian Piasters.

Advantages and Expenditures

The expenditures for reclamation of El-Ghab lands, 70,000 hectares in area, is approximately L.S.140 million, i.e., at the rate of L.S. 2,000 for one hectare. This high rate of expenditure is due to the needs or drainage in addition to irrigation, hydraulic energy.

As to the products of the lands of El-Ghab project, preliminary reports indicate that the volume will not be less than 650,000 tons yearly. Of this quantity, 380,000 tons beetroot, 16,000 tons cotton and the remaining quantity cereals and forage. On this value, the product of the hectare of these lands which shall be reclaimed will be in the limit of L.S.1,300 yearly. The yearly net income per hectare, after deducting price of seeds, fertilizers, implements, manpower, etc., will not be less than L.S.850.

As to the lands which will be irrigated in the Upper Basin of El-Asi, the total expenditures shall not exceed L.S.40 million or L.S.1,000 per hectare.

It is evident that their volume of products shall not equal to those of El-Ghab lands which are of superior fertile soil.

The total costs of the irrigation and hydraulic projects in El-Asi basin amount to L.S.180 million. It is decided that works for these projects shall be finished by the beginning of 1964.

These projects will realize the irrigation of about 110,000 hectares of agricultural lands, of which 40,000 hectares are State property and the remaining area of 70,000 hectares are private property. This is in addition to the electric power to be generated from the water falls amounting to 100 million KW/hour. Besides other advantages relating to combating floods. Moreower the river course will be beautified by the existence of the established lakes and other secondary advantages.

Other Projects

With the exception of the present irrigated lands in the Euphrates, Khabour and El-Asi basins, amounting to about 300,000 hectares, the area of other lands in the Syrian Region irrigated by rivers, water wheels, springs and wells are estimated at 200,000 hectares.

The full program for the exploitation of all hydraulic wealth and lands suitable for cultivation, indicates that 2,000,000 hectares of the agricultural lands can be irrigated. In the light of this estimation for potentialities, the present irrigated lands in other projects can be increased by 100,000 hectares to become 300,000 hectares.

In respect of the present ten year project for economic development, the total lands which shall be irrigated shall only confine to the increase of 40,000 hectares. The present project includes the advantages obtained by the generation of electric energy of the plentiful water falls in other Syrian river courses, the quantity of which is not less than 32,000 KW.

The proposed projects are distributed on six river basins and sites. In view of the fact that the technical studies are still pending completion, the proposed estimation will be based on the available preliminary studies giving the minimum rates for the possibilities of irrigation and hydraulic energy in these six basins.

We will deal in brief as to the aims of these development projects in those basins.

El-Kebir River

El-Kebir River springs out of the mountains parallel to the Turkish boundaries and discharges its waters into the Mediterranean near Latakia. El-Kebir river is a short river, the length of which does not exceed 80 kilometers, 56 kilometers of which lie in Syria.

The flow of the river differs during the year. It is low in summer reaching only 0.5 m^3/second and rises in winter up to 150 m^3/second. Its average disposal during the year is more than 4 m^3/second and its total flow is 150 million m^3 in the year.

Control over this river flow will realize the irrigation of more than 4,000 hectares of agricultural lands lying in its basin. The present irrigated area is not exceeding 1,000 hectares. The present projects will therefore raise this area by about 3,000 hectares. This area of agricultural lands is of particular importance as it can be cultivated with various kinds of vegetables which have an active market in Latakia, the main export port in Syria.

As to the control over the waters of El-Kebir river, this can be realized by the construction of a reservoir on the river course, 60 meters long, with adequate capacity for irrigation and generation of electric power purposes.

The capacity of the electric motors which have to be installed at this reservoir shall not be less than 5,000 KW.

Cost of this project is comparatively high, being L.S.20 million, but its situation makes it of immense importance justifying these expenditures.

It is expected that this project will be accomplished at the beginning of 1963 provided that the current technical studies will be concluded before commencement of work. These studies may prove possible higher minimum limits than those estimated in the present project.

El-Rouj Swamp

The Rouj depression lies in the western zone of Aleppo Governorate and to the south-west of Idleb. The level of this depression varies between 200 and 240 meters and is separated by the Wastani narrow mountain range which rises to the height of 550 meters to the west of the depression than to El-Asi river.

The total area of this depression is about 13,500 hectares of which 5,000 hectares are over-flown with water and composed of permanent or seasonal swamps. The amount of rain water in this depression is about 500-600 mm per year. Water flowing down from the eastern and western mountain ranges surrounding the depression accumulates, in addition to the water discharged by the permanent springs, the flow of which is estimated at 2.5 m^3/second. The Rouj also receives water from the south from the canal fed by the springs and from the north receives the waters from the Kouck and Souk plains.

The only visible outlet of the water accumulations lies at "Belan" in the western side of El-Rouj. The soaking of water takes the form of infiltration into the holes in the rocks. The capacity of soaking is 1 m^3/second. Studies revealed this infiltration runs for 5 kilometers in the interior of El-Wastani mountain and slopes to more than 100 meters until it reaches Hamam El-Sheikh Issa on El-Asi river.

The project undertaken by the Irrigation and Water Power Administration in Syria aims at dehydrating this swamp. This will be performed by the construction of a tunnel across the Wastani Mountain to cope with the drain of water accumulated in this depression. The dehydrated lands could be reclaimed as cultivated by irrigation. The soil is of good quality and is suitable for cultivation.

The project also aims at making benefits by utilizing water falls in the drain tunnel, estimated at 115 meters for generating electric power, the capacity of which is not less than 2,500 KW which can be employed by the neighboring zone to the project.

The drain tunnel was constructed in 1955 at a length of 4.3 kilometers and semi-oval crossing resembling a horse-shoe. The tunnel is reinforced and the capacity of water disposal is about 25 m^3/second. It has a sloping opening lower than the base of the swamp which could drain accumulated waters very easily. The swamp waters have already been drained by means of this tunnel and now it is ready for reclamation.

Irrigation of this reclaimed land should be undertaken by irrigation canals and sluice gates, in the meantime taking advantage of water springs. The irrigation net shall be composed of two main irrigation canals to surround the depression from the north and south directions, from which other branching and secondary canals branch. It would therefore be possible to benefit by the "Ery" springs during the irrigation season for irrigating 5,000 hectares of agricultural lands.

During the rain season the water of springs should be directed to the drain tunnel.

"Gptha" company has been entrusted with the study of the reclamation program for these dehydrated lands and recommending methods for their exploitation and the construction of all irrigation and drain networks. These projects will cost approximately L.S.4 million and will be accomplished by the end of 1960.

The lands which will be reclaimed in this depression, 5,000 hectares in area, are all state property.

El-Sin River

This is the shortest river in Syria as its length does not exceed 6 kilometers. It lies to the south of Latakia.

This river is fed by a collection of springs which are considered as the most powerful of all Syrian springs next to El-Ein springs which feed [illegible]-Khabour river. The average disposal of these springs amounts to 10 m^3/second during the year, but in view of their level being lower than that of the agricultural lands lying on the Syrian bank, no full benefit could be derived from their waters for irrigating those lands by the free flow. For this reason it is essential to resort to mechanical pumping for pumping their waters up to a height of 10-40 meters above sea level so that better benefit could be attained by their waters.

The mechanical pumping is evidently more cheap than the costs for construction of a reservoir or a high deviating dam around these springs.

The river disposal differs throughout the year while the average disposal is about 12 m^3/second, the rate of its flow rises up during flood to more than 22 m^3/second. The total river disposal is about 360 million m^3 per year.

The area of lands irrigated by El-Sin does not exceed 2,000 hectares of agricultural lands suitable for the cultivation of various assortments of fruits, vegetables and cereals. The Irrigation and Water Power Administration has been undertaking the execution of this project since two years as shown hereunder:

1. Construction of an earth dam for detention of water and raising its level to a suitable height which will not affect the output capacity of the springs.

2. Construction of a pumping center for pumping out water to neighboring highlands.

3. Establishment of an irrigation network for irrigating 3,000 hectares at the height of 16 meters.

4. Construction of an irrigation network deriving its waters from the dam having the capacity of 1 m^3/second for irrigating 2,000 hectares of the coast lands by free flow.

A part of these works has been accomplished. The quantities of water now employed in the present two irrigation networks amount to 2.5 m^3/second. As to the balance of water in springs amounting to 7.5 m^3/second, this can be utilized in the expansion of irrigation operations and raising the water level to 40 meters.

The Irrigation Administration is now undertaking studies relative to coast lands stretching from Banias and Gabla to see whether it is suitable for cultivation in order to be irrigated by the plentiful waters of El-Sin River. The area which could be irrigated amounts to 12-15,000 hectares.

The present development project aims at reclaiming 10,000 hectares of these lands to be irrigated by means of mechanical pumping. The expenditure of this project amounts to L.S.8 million. It is expected that works will be accomplished in the beginning of the year 1962.

Barada Basin

The Barada River springs out from the eastern foot of El-Sheikh Mountain. Its water sources accumulate in a small lake at the height of 1,100 meters and the river runs out where its waters join the small El-Khalis and continues its course until it joins the Figeh spring and runs along to Damascus where it discharges its waters in Lake Ateba, the area of which is 6,400 hectares. The total length of the river is 70 kilometers.

The main characteristics of the Barada River can be summarized as follows:

Site	River Course Kilometers	Water Level or Height Meters
Source	-	1,100
Tekya	7	1,080
Souk Barada	10	960
Ein-El-Figeh	18	825
El-Hama	29	735
Damascus	40	670
Ateba	71	598

This river is distinguished by its powerful slope exceeding 10 m/km which makes it a suitable hydraulic source for generating electric power.

The water disposal of the river differs whereas its average course during the year is more than 12 m^3/second, this rate increases during flood to more than 35 m^3/second. The annual disposal of this river is about 400 million m^3.

The area of the Barada basin up to Damascus is estimated at 750Km^2. The rainfall in its basin varies between 200-500 mm. Therefore irrigation by rain water in these zones is limited. There are lands in the river basin which are suitable for cultivation beyond the possibilities of the river water.

The river water is now utilized in providing water to Damascus and is also being used in watering 15,000 hectares of its well known gardens. The irrigation of this zone starts from El-Hama where the river is divided into seven main streams which irrigate the garden area of Damascus. The surplus of this river flows to Lake Eteiba.

The present project for the Barada basin aims at full advantage of the river water and storing its water for irrigating the lands of the two Ghoutas, the Eastern and Southern, thus irrigating another area of about 15,000 hectares. The project also aims at benefiting of the water falls and their storage for generating cheap electric energy.

The project includes construction of two dams one at El-Mokarem or Souk Barada and the other near Hama. The height of each dam will be about 60 meters for storing about 160 million m^3. This storage will regulate the course of the river and rise the present quantity used in irrigation from an average of 7 m^3/second to 15 m^3/second.

The project also aims at the construction of two stations for generating electricity at a capacity of not less than 10,000 KW.

The expenditure of this project amounts to L.S.15 million. Works in the Barada Basin will be accomplished in the beginning of 1963.

El-Aw'aj Basin

El-A'waj river springs from the eastern uplands of El-Sheikh mountain about 2 kilometers from "Om El-Sharateet" which lies at a distance of 35 kilometers from Damascus on the Koneitra road. After leaving Om El-Sharateet, a canal branches from it running to Damascus where the main river course runs for about 60 kilometers to the east where its waters are distributed for irrigation and the surplus pours into Lake Hejana, the area of which is 2,400 hectares. Total length of the river is 66 km.

The minimum discharge of the river water at Om El-Sharateet is about 0.3 m^3/second and the maximum reaches 19 m^3/second. The average river flow per year amounts to 2.5 m^3/second whereas its yearly flow amounts to 80 million m^3.

The irrigation of lands of this river basin necessitates the construction of a reservoir at Beit Tema or near to the farm of Beit Jon to increase the lands irrigated from the river.

The present project aims at increasing the lands in its basin by 2,000 hectares. The expenditure amounts to L.S. 4 million and works will be accomplished in the beginning of 1964.

Yarmouk Basin

The river Yarmouk is fed at its source by a collection of water springs which flow into Lake Mzerib which area is 100 hectares, Of this lake river Beggã springs with a constant discharge of 1.5 m^3/second, where it discharges its waters at Sadda at Shehab Hill. Springs and infiltration water join its course rising its minimum flow to 2.3 m^3/second and continues its course where it is later joined by other various springs of which Ein Bondok, Ein El-Ajami and Zeizoun are mentioned.

The Yarmouk runs in Syria for about 47 kilometers and further it penetrates into the Jordan lands. Its annual output amounts to 7 m^3/second and the flood summit reaches 100 m^3/second. The yearly output is estimated at 450 m^3 of water.

A small reservoir was constructed at its source from the lake to provide water to the two main canals for irrigating 3,000 hectares of agricultural lands by free flow. These two canals are fed with various springs. It appears that the best method for increasing lands which can be irrigated is to adopt mechanical pumping. These new lands surrounding the river course are about 5,000 hectares. Advantages can be obtained from the cheap electric power which can be generated from the water springs in the Yarmouk basin for employment in the mechanical pumping needs.

The soil of Mzerib zone consists of deep red layer mixed with clay and sand and is rich with azote but is in need of phosphate components and includes fertile sediments. This area contains lands suitable for cultivation greater than desired.

The project of irrigation in this zone of Horan is of particular importance because this zone is rich with manpower and is abundantly populated. The projects of irrigation and dehydration will help in eradicating malaria from this zone.

The project aims, in addition to irrigation purposes, at generating electric power from the springs in the Yarmouk basin. The present project for electricity should be revised in order to obtain utmost benefit from the springs of the zone in generating electric power.

The preliminary report of the Soviet experts and other four projects show that the best and suitable method for generating electricity is to construct a power station in Wadi El-Harir. This station is to be fed from the Zizon spring after detaining water opposite a small dam to be constructed on the river course. Irrigation water would be drawn from other springs after raising its level to 463 meters. This power station can generate power reaching 2,200 KW, 870 KW of which to be utilized in industry and pumping irrigation and light in the neighboring zone and the remainder to be transmitted to other neighboring zones.

As to the full project for electric generation, it is possible to benefit by a fall 238 meters abundant in the project and a flow of 4.4 m^3/second for constructing a power station in the second stage the capacity of which is not less than 10,000 KW.

Expenditures for the Yarmouk Basin for irrigation and hydraulic power amount to L.S.8 million. Work is expected to be accomplished in the beginning of 1964.

Summary of Other Projects

It is possible to sumarize the irrigation and hydraulic power in the six zones already explained, in the following table.

Project	Area to be Irrigated Hectares	Method of Irrigation	Capacity of Electric Power Generated KW	Expenditure in L.S. Million
El-Kebir River	3,000	Free flow	5,000	20
El-Rouj Swamp	5,000	" "	2,500	4
El-Sin River	10,000	Pumping	-	8
Barada Basin	15,000	Free Flow	15,000	15
El-A'waj Basin	2,000	" "	-	4
Yarmouk Basin	5,000	Pumps	10,000	8
	40,000		32,500	59

From the above table it will be seen that these projects realize generation of electric power not less than 32,500 KW. In addition to irrigation of a new area of lands suitable for cultivation not less than 40,000 hectares. Of this area 10,000 hectares are State property whereas the remaining 30,000 hectares are private property.

It is probable that the works of these projects will be finished at the end of 1964. The total expenditures will reach the limit of L.S.60 million at a rate of L.S.1,500 per hectare of the irrigated lands.

Hydraulic Power

Statistics on electric energy in Syria for the year 1956 show that the total power of electric generators amounts to 51,400 KW. Most of this power is generated by Public Establishments. The rate of power generated from hydraulic energy is lower than 14% whereas the greater majority of the electric power is generated from thermal sources. The total yearly energy is about 166 million KW/hour, of which 137 million KW/hour are consumed, out of the latter 86 million KW/hour are used in lighting or 63% of the total consumption, the remainder is consumed in industrial purposes.

Expansion in the consumption of electric power in advanced industrial countries ranges at 10% yearly. (The average world consumption is 7%). The European Electric Corporation takes the rate of 7% yearly as basis of its calculations for estimating the increase in consumption in the advanced industrial countries of Central and Northern Europe. As to the Syrian Region, the average rate during the last years amounts to 17% annually.

It is not certain to depend on the thermal resources for generating the electric energy in Syria as the source of the thermal fuel is coal which is not abundant in Syria and also petroleum exploitation is still under study. For all these reasons it is essential to benefit by the existing hydraulic energy in generating cheap power.

The expenditure for generating power from thermal sources in civilized countries in which coal is abundant at about L.S.450 per KW of electric energy. The cost of the thermal diesel generators per KW in Syria is not less than L.S.450 or about L.S.600 for the KW. The cost of generating power from hydraulic energy is by far less. The actual cost of thermal power varies from L.S.600-800 per KW in Syria. In advanced industrial countries, the cost of generating a KW does not exceed L.S.200 as is the case in Scotland but in Syria it is difficult to make an estimate of the hydraulic energy cost as the projects for hydraulic energy in Syria are secondary projects which are tributaries of the proposed irrigation projects in the economic development projects.

On the other hand the expenditure for generating electric power from hydraulic energy depends on the amount of capacity of springs and the quantity of the water flow but in this respect we have to assure that generation of electric power from hydraulic energy is much cheaper than thermal generation because water resources are immensely abundant which must be fully exploited in order to realize the economic development.

The present prices of electricity in Syria are rather high as compared with those of other advanced industrial countries. The price per KW/hour for lighting varies between 16-25 Syrian Piasters and in industrial purposes between 4-18 Syrian Piasters. The average cost per KW/hour varies between 10-12 piasters on the basis that the cost of production is about 4.5 piasters and the transmission and distribution 5-7 piasters. While the electric power generated from hydraulic power, the cost of production does not exceed 0.5 piasters per KW/hour as there is no fuel and the cost of maintenance and working are lower than thermal generators.

If we take the maximum increase in the electric consumption of Syria in 1956 which was 14% as basis for estimation, the quantity of consumption at the end of the ten years will be five times as much and will be 18 times at the end of 20 years, i.e., in 1978. The quantity of electric consumption in the first case will be 685 million KW/hour and 2,466 million KW/hour in the second case, i.e., in 1978.

It will be observed that the electric power which shall be generated in the Program for the ten years will be estimated as follows:

Project	Power in KW
Euphrates Basin	100,000 - 300,000
El-Asi Basin	23,300
Other projects	32,500
Total	155,800 - 355,800

If we take the minimum power which will be generated from the Euphrates as basis, the total power generated shall not be less than 156,000 KW and on the consideration that the average minimum working which is estimated at half the quantity generated during the whole year, the quantity of which shall be economized yearly shall not be less than: $\frac{156,000 \times 24 \times 365}{2}$ = 683 million KW/hour.

If we add to this the quantity produced in 1956 amounting to 166,000,000 KW/hour, this means that the quantity of electric power which shall be economized at the end of the ten-year program shall be approximately 849 million KW/hour which is by far more than the expected needs estimated at 685 million KW/hour only.

With regard to expected estimates after twenty years on the basis that full benefit will be derived from the Euphrates with a maximum of 450,000 KW, this means that the quantity which could be obtained shall be increased not less than: 350 x 24 x 365 = 1,533 million KW/hour, which would raise the economized quantities to 2,382 million KW/hour which is nearly equivalent to the estimated needs after 20 years amounting to 2,466 million KW/hour.

From this it will be found that in case the electric generators operate for half the period in the year, the hydraulic energy is sufficient to cope with the necessary requirements.

As to the income obtained from the sale of the cheap electric power on the assumption that its price will be one-third of the present price, i.e., 4 piasters per KW/hour, this income will be:

In case of minimum output, i.e., 683 million KW/hour, the early income will be: 683 x 4 = L.S.27.3 million.

In case of full benefit from the hydraulic energy, the income will rise to (683 + 1,533) x 4 = L.S.88.6 million yearly.

This secondary income in proportion to irrigation and hydraulic energy will constitute an important income in the budget and the budget for the proposed economic development projects. This is in addition to the economic and vital advantages which Syria will gain by this cheap electric energy.

Estimates and Economic Advantages

We have reviewed in the beginning of this report the agricultural potentialities available in Syria and the amount of advantages obtained from the exploitation of the two main sources, i.e., land and water in cultivation, irrigation and hydraulic energy purposes. We have also explained the extent of possibilities which the ten-year project for electric developments comprises.

As to the possibilities in Syria, the area of lands which can be irrigated shall be estimated as follows:

Site	Area Presently irrigated Hectares	Area which can be irrigated Hectares	Estimated Increase Hectares
Euphrates Basin	200,000	1,300,000	1,100,000
El-Khabour Basin	50,000	200,000	150,000
El-Asi Basin	50,000	200,000	150,000
Other zones	200,000	300,000	100,000
Total	500,000	2,000,000	1,500,000

The quantity of electric energy which can be generated of the hydraulic energy is amounted to not less than 500,000 KW.

We have also explained the part which these possibilities will realize in increasing agricultural production in Syria and in regulating its operations in the increase of rate of irrigation in production.

With regard to cost of production and expected profits, these can be obtained by making a comparison with estimates shown in the development projects and the amount of expected advantages which were based in an accurate manner and in the bounds of minimum production or the expected advantages to be obtained.

As to the ten-year project of the present economic development, it can be briefly explained with regard to details of the project.

Project	Area of Irrigated Lands in Project Public Property	Private Property	Total	Area Presently Irrigated	Amount of Increase
	- - - - - -	- - - - - -	In Hectares	- - - - - -	- - - - - -
Euphrates Basin	500,000	300,000	800,000	200,000	600,000
El-Khabour Basin	100,000	50,000	150,000	50,000	100,000
El-Asi Basin	40,000	70,000	110,000	25,000	85,000
Other Projects	10,000	30,000	40,000	—	40,000
Total	650,000	450,000	1,100,000	275,000	825,000

As regards amounts of costs and amount of electric energy which could be obtained, the proposed projects can be briefly outlined in the following manner:

Project	Electric Power Generated in KW	Total Estimated Expenditure in L.S. Million
Euphrates Basin	100,000-300,000	1,140
El-Khabour Basin	-	160
El-Asi Basin	23,000	180
Other projects	32,500	60
Total	155,800-355,800	1,540

It will be seen that the average cost of irrigating per hectare in the proposed projects amounts to L.S.1,400. This estimate covers cost of electric power generated. This indicates that the cost is extremely low in comparison with the advantages which these projects will realize, besides these expenditures will be collected or refunded from reclamation of lands.

The value of lands which will be irrigated after its being reclaimed varies as far as soil and production are concerned. In some localities as in the case of El-Ghab project, the value of one hectare rises to L.S.3,500. As to the average value calculated on the minimum limit of these projects, we can estimate the value of one hectare from the State property which will be irrigated at the rate of L.S.2,500 only. This means that the total value of these lands will not be less than: 650,000 x 2,500 = L.S.1,625 million. As to the sums refunded by the private proprietors as being values for irrigation of their lands, they will not be less than L.S.1,500 per hectare irrigated, giving the following total:

450,000 x 1,500 = L.S.675 million.

It will therefore be observed that the amounts to be refunded from reclamation of lands and providing private lands with water are not less than: 1,625 + 675 = L.S.2,300 million. This sum is more than the total cost of these projects by 50% which proves that these projects are entirely economical. These sums can be recovered from farmers who will have shares in the distribution of the State lands and from landowners benefiting by these projects on yearly instalments, number 15 in the first case and 10 instalments in the second.

The amount of money refunded yearly by the farmer does not exceed 14% of his total yearly income from the five hectares which have been reclaimed and became suitable for cultivation and not exceeding 21% of the net income of cultivation of the lands which he owns.

As to private landowners, the yearly payments do not exceed 12% of their total income or 19.1% of their net income of value of cultivation of the lands which shall have its water needs. This is on the basis that the yield of one hectare of the watered lands amounts to L.S.1,250 and net production at L.S.800 yearly. Legislations are being prepared for refunding value of lands distributed and cost of irrigation due.

As to the economic advantages which would be realized from the execution of these projects, the value of production of these irrigated lands can be estimated at:

1,100,000 x 1,250 = L.S.1,375 million and the net income is not less than 1,100,000 x 800 = L.S.88 million yearly.

This excludes the revenue of the generated electric power which varies between L.S.27-89 million yearly, at minimum estimate and value.

As to the extent of increase to which these projects will realize in the National Revenue of Syria from irrigation, this can be estimated as follows:

825,000 x 1,250 = L.S.1,031 million annually.

If we add to this increase the value of the generated power, the average value of which is L.S.69 million, this will raise Syria's National Revenue to L.S.1,100 million. This increase in the National Revenue equals 55% of the present National Revenue.

There are also other advantages to the agricultural development in products lying in elevating the standard of living of our compatriots in the Syrian Region.

Cereal Grain Elevators "Silos"

Grains are the backbone of agricultural production in Syria on which the Syrian economy stands in the way of securing foreign currency which guarantees our supplies through imports from foreign countries. Therefore the Region's interests are based on securing the greatest amounts of foreign currency in order to realize the greatest economic advantages. Areas cultivated with wheat were lately surveyed and found to amount to 1,573,300 hectares yielding about one million tons. There are other possibilities for expanding these areas as there are still one million hectares suitable for cultivation for which the Economic Development Organization is endeavoring for its exploitation in the near future, in virtue of the projects for dehydration, irrigation and construction of various reservoirs and dams.

It is evident that Syria must not continue the practice of primitive methods which are being followed in storing grains for local consumption or for exportation. It is essential therefore that we must adopt modern lines for improving wheat cultivation and production as foreign markets call for wheat of specific qualities. Cultivators must therefore be advised for sterilizing their seeds and unifying their species, especially as these lines are already adopted in all countries. If Syria fails to follow this procedure there will be no prospects for exporting Syrian grains to foreign markets. Besides, the adoption of this program will improve production and save expenses and would safeguard grains from the harmful insects and effects of weather variations. This cannot be realized except by the construction of storehouses on modern lines as is adopted in all civilized countries.

The advantages to be obtained are hereby summarized:

1. Increase in the National Revenue resulting from preservation of grains from all harms, unifying species and sterilizing seeds which lead to doubling the yields and increasing the total production.

2. Saving fees paid by the State and private individuals for occupying the stores and store grounds.

3. Saving enormous expenses incurred by the Cereal Grain Office and farmers in transporting grains for cultivation to consumption areas. The total quantities thus transported are not less than 40,000 tons costing about L.S. one million for their transportation per year.

4. Material advantages obtained by the grain office for depositing their grains and for cleaning and sorting grains for transport, at the expense of cultivators.

5. Fixing species of grains to be transported.

6. Securing universal markets for the Syrian wheat.

7. Storing grains for supply and reserves (for emergency and war). Export of surplus for improving economic balance.

8. Saving fees for depositing grains under export in the warehouses and platforms of Latakia Port.

9. Economizing value of sacks imported from abroad by hard currency.

10. Getting rid of crisis resulting from stagnation of market due to excessive production and avoiding the fraudulent practice of monopolists in controlling local prices as surplus grains could be stored for sale to foreign markets.

11. Syria will have a standing policy which preserves the interests of the Region and the cultivators.

12. Safeguarding the regular local consumption and providing the requirement of the inhabitants in fixed prices during the course of the year.

13. These technical storehouses will save the Government enormous wages of employees which will decrease the expenses of the Cereal Grain Office for porterage in loading and unloading.

14. This project will also save inevitable expenses at present paid in transporting grains to ships. Studies proved that there is an economy of not less than L.S.5 per ton if transported direct from storehouse to ship. Latakia is now provided with modern warehouses and is now able to supply ships under modern lines.

15. The construction of these technical storehouses will enable the Cereal Grain Office to dominate in the price of wheat in the Region and can fix it beforehand expressing desire to buy wheat products by this fixed price. This will guarantee a reasonable profit for cultivators which will encourage them to continue their hard task and will also defend them from the risks of the market prices.

16. These technical storehouses will save wheat from the harms of insects and saving enormous sums for this purpose.

17. Utilizing the new railroad in transporting grains from the Jezirah to Latakia during the months of the year.

These technical storehouses commonly known as silos, are constructed of reinforced concrete for depositing grains sufficient to accommodate substantial quantities to be stored in cells, the number of which varies according to the size of the storehouse. Cleansing and ventilation of these grains are undertaken at the storehouse. The grains are also treated by insect exterminators until their transport is called for.

The technical storehouses are formed of the following sections and branches:

1. Various cells for storage and weighing grains without sacks.

2. A store of two storeys for storing grains in or without sacks.

3. Mechanical carriers operating under silos for transporting substantial quantities of grains.

4. Lifts provided with electric shovels capable of unloading six rail cars and 4 motor ambulances at one time, or equal to 4,000 tons daily.

5. A tower with various partitions for the installation of maintenance, cleaning and weighing apparatuses.

6. Electric apparatuses for supervision, and automatic signal operated at a distance.

7. Control center to be worked by one worker who operates and supervises machinery and halts them at distance by telephone or radio by which he will be continually in contact with the various sections of the work.

8. Each cell in the silo should be provided with a thermometer to be connected by special wires with the control center so that the worker would know the degree of temperature in the various cells of the silo while in his place.

9. Air conditioning apparatus.

10. Ground scale for weighing loads and ambulances.

11. Apparatuses of purifying atmosphere from dust by means of absorption.

Wastes to be collected from cleaning partition for conveyance to waste store by means of machines operating by air pressure.

This is a quick glance at the various advantages gained by the construction of these modern technical storehouses. Necessity calls for adopting modern lines for storing grains and dispensing with primitive methods which were harmful to agricultural production. The zones at which these technical storehouses shall be constructed should be divided into two sections.

SECTION I - Production Zones

Jezirah Governorate: Tel Abyad, Ras El-Ein, El-Derbassia, Tel Elw, Tel Zowan, Kamishli, Hasaka.

Deir El-Zor Governorate: Deir El-Zor, Rakka.

Horan Governorate: Dera, Ghazala, Azra'.

SECTION II - Consumption and Storage Zones

Aleppo Governorate: Baghdad Station at Aleppo, Ein El-Arab, Menig, El-Mara', Idleb, Affreen.

Hama Governorate: Hama.

Homs Governorate: Homs.

Damascus Governorate: Damascus.

Two storehouses can be started in Jezirah, having the capacity of 5,000-15,000 tons to serve as receiving centers of grains either in or without sacks. If not packed in sacks, the transport of the grains should be directed to Aleppo or Latakia on the construction of the new railroad. These two storehouses should be equipped with all technical apparatuses for cleaning, weighing and expurgation. Priority is given to this zone due to the volume of its production which shall be increased by $\frac{1}{2}$ ton of grains annually, and also for being an important center for grain merchandise, and being far from the main zones thickly populated.

As to the sites for these silos, these will depend on the final study for the proposed railroad to run from Jezirah, Aleppo and Latakia.

There are also other means for storing grains by means of Mattamoros (subterranean repositories for wheat) made of steel.

The subterranean repositories are old methods for storage of grain. Recent developments have been made by constructing pits with cemented walls and flooring similar to those of swimming pools. These repositories are covered with either permanent or temporary roofs to become capable of avoiding infiltration of water or gas.

It is recognized that these subterranean repositoires are extremely unexpensive in comparison with one ton of stored grain. Grains can be stored in these repositories for many years without any great harm, provided that the grains must be dry and the rate of humidity shall not exceed 14%.

These repositories may be round or oblong. The capacity may be up to 900-1,000 tons. They can be arranged in groups, throughout the Jezirah zone producing wheat or other grains in order to feed the main silos established alongside railroads or at bifurcation of roads.

The steel repositories are temporary for sheltering grains. It can be untied and installed in another locality or sold or used in other purposes after the construction of the silos.

This is a quick glance at the realized advantages obtained from the construction of these silos which will bring the National Economy to a high level. On studying the project for constructing these silos, priority should be given to possibilities of transportation by railroad.

Distribution of Silos

The various zones of the Syrian Region shall be divided into two sections:

Section I - Production Zones

Jezirah Governorate: Tel Abyad, Ras El-Ein, Derbassia, Tel Elw, Tel Ziwan, Kamishli, Hasaka.

Deir El-Zor Governorate: Deir El-Zor, Rakka.

Dera Governorate (Horan): Dera, Ghazala, Azra.

Section II - Storage and Consumption Zones

Aleppo Governorate: Aleppo (Baghdad Station), Ein El-Arab, Menig, El-Ma'ra, Idleb, Affreen.

Hama Governorate: Hama.

Homs Governorate: Homs.

Damascus Governorate: Damascus.

Horan - Dera Governorate: Horan.

Latakia Governorate: Latakia.

In order to arrive at a practical solution for the distribution of the proposed silos, each governorate should be studied separately.

Jezira (Hasaka Governorate)

Jezira Governorate having a yield of 600,000 tons of wheat and 176,000 tons of barley is considered as the first depot for grains in Syria. For this reason it was the first to be thought of for the construction of these silos, bearing in mind that there are great possibilities for excessive production of grains directly after completion of the reservoirs and deviating dams projects. Now we have to depend on facts revealing from present studies and statistics so that the construction of these silos will be made on good basis.

We recommend that these constructions be made in two stages:

First stage: for immediate construction (1959-1960)

Second stage: for subsequent execution (1965)

First Stage

1. Subterranean silos

Tel Amer	6 units	900 tons	=	5,400 tons
Tel Brak	6 units	900 "	=	5,400 "
Koubour El-Beid	4 units	900 "	=	3,600 "
Tel Kogak	6 units	900 "	=	5,400 "
Damir Koubour	4 units	900 "	=	3,600 "
Direok (Malkie)	4 units	900 "	=	3,600 "
				27,000 "

2. Standard Silos - 5,000 tons capacity

Tel Elw Ras El-Ein	10,000 tons

Standard Silos - 10,000 tons Capacity

Kamishli (Tel Ziwan) Derbassia Hasaka	30,000 tons
Total of First Stage	67,000 tons

Second Stage

Standard silos 5,000 tons at Tel Abyad	5,000 tons
Standard Silos 10,000 tons at Rokka	10,000 "
Total of Second Stage	15,000 tons

The total capacity of the Jezira silos will be nearly 100,000 tons including the present storehouses in Tel Ziwan and Derbassia which equal 13% of the total grain products. These are considered sufficient for coping with the needs as most of the grains are transported directly to Aleppo as soon as reaped.

Deir El-Zor Governorate

We suggest that this zone be included in the second stage for disposing with a surplus amounted to 40,000 tons of wheat and 60,000 tons of barley in recent years. A standard silo should be constructed at Deir El-Zor with a capacity of 10,000 tons on the left bank of the Euphrates on account of the proposed railro ad extending across this zone.

Aleppo Governorate

Aleppo comes after. This city is considered as an important center for grain merchandise and for transport networks. It is supposed to be an internal center for storing and distributing grains. Grains are brought to this town from Jezira which is considered as the main zone for grain production before the winter season so that it could be transported from Aleppo to local zones of consumption and to Latakia for exportation.

It is therefore recommended that this zone be provided with a "terminal" silo for grains, having the storage capacity of 100,000 tons which is considered adequate on account of the Cereal Grain Office hiring a storage area, having the capacity of 76,400 tons which may be expanded if the storage advantages are realized.

In addition to this central silo for grains, supplementary small silos for storage in production zones shall be established according to the program hereunder shown:

First Stage

Subterranean repository silos at:

Ma'ret el No'man 4 units capacity 900 tons = 3,600 tons
Menig 6 " " 900 " = 5,400 "
9,000 tons

Silos (Standard type) 5,000-ton capacity at:

El-Bab)
Idleb) 10,000 tons
Silos (Thermal) First Stage 50,000 "
Total capacity First Stage 69,000 "

Second Stage

Silo (Standard) with a capacity of 5,000 tons at:

Maskana)
Affreen) 10,000 tons
Silos (Terminal) Second Stage 50,000 "
Total Second Stage 60,000 "

The total capacity of silos in Aleppo will be 129,000 tons.

Damascus Governorate

Damascus is the lowest zone for grain production, only 73,000 tons of wheat and 19,000 tons of barley are produced due to little rain. One silo is sufficient.

Need for 50,000 tons of wheat and 25,000 tons of barley necessitates the construction of one silo having the capacity of 30,000 tons to be constructed in two stages:

First Stage

Damascus grain silo: First Stage	20,000 tons

Second Stage

Damascus grain silo: Second Stage	10,000 tons
Total storage capacity	30,000 tons

This silo is to be constructed at the south end of the city near the Hodjaz railroad. This is the most suitable site as wheat brought to Damascus is sent from Horan.

Homs Governorate

Homs comes after Hama with respect to grain merchandise. It lies on main roads stretching between north and south and is therefore considered as an important center for storing grains. Exports of grains to Lebanon are mostly undertaken at Damascus. Those exports amounted to 64,000 tons of wheat and 20,000 tons of barley in 1957. There are also modern grinding mills in Damascus which absorb 250 tons daily of grains not packed in sacks, this is considered as technical storage without sacking. Excluding these mills, the existing covered storehouses are only capable of storing 3,500 tons. Owing to the damp weather of Homs, the stored grains will be liable to damages caused by humidity and insects. For these factors it is essential to construct a silo at Homs in the first stage having a capacity of 10,000-15,000 tons. It will be of considerable value to the city. The best site for the silo is to be near the railroad of the city.

First Stage

Silo at Homs with a capacity of: 10,000 tons

Hama Governorate

Hama zone is able to produce a surplus of 41,000 tons of wheat and 44,200 tons of barley. In order to store this quantity and to secure the necessary quantities for the consumption of the city, it is recommended to construct:

First Stage

Hama: One silo "Standard" with a capacity of 10,000 tons

The site suitable for the construction is a branch line of the railroads at Hama.

Dora' Governorate (Horan)

The excellent quality of wheat known as (dunum) is cultivated in Hama. Most of the surplus quantities are leaded to Damascus. There are no surplus quantities of barley in Horan. Mechanical harvesters were brought to the town. For this reason we recommend the construction of subterranean silos at:

Gazala	6 units,	capacity 900 tons each	=	5,400 tons
Sanamin	6 "	" 900 " "	=	5,400 "
Basri	4 "	" 900 " "	=	3,600 "
				14,400 "

Silos (Standard) Capacity 5,000 tons at:

Dora' Izra		10,000 tons
	Total	24,000 tons

These silos should be constructed on the Hedjaz railway with the exception of Sanamin which is an important center for the production but is lacking a direct connection with railroads. Dora' is considered a main center for providing the inhabitants of the taxable zones with their requirements of wheat.

Sweda Governorate (Jebel El-Druz)

Grains are cultivated in a very small extent and quantities yielded are all locally consumed. This is no justification for construction silo in the first stage. Sweda is considered as an important center to the south east of the Syrian Region. It is recommended to construct a standard silo for storing the quantities required for local consumption.

Second Stage

Sweda: silo standard with a capacity of 5,000 tons

Latakia Governorate

Latakia is considered as one of the zones having deficits of production. Its deficits amount to 24,000 tons of wheat and 9,000 tons of barley. On completion of the new silo at Latakia Port the capacity of which is 4,000 tons and also the other storehouses of 20,000 tons each, Latakia will be provided with sufficient storage accommodation for absorbing the reserve quantities required for this zone.

We therefore do not recommend the construction of extra silos in Latakia Governorate.

The following gives an indication of the total volume of storage constructions detailed according to governorates:

Hasaka (Jezira)	82,000 tons
Deir El-Zor	10,000 "
Aleppo	129,000 "
Damascus	30,000 "
Homs	10,000 "
Hama	10,000 "
Dera' (Horan)	24,400 "
Sweda	5,000 "
Latakia	-
Total	300,400 tons

The following list shows the types of silos and stages:

Type	First Stage	Second Stage	Total
Subterranean (900-ton)	56 units =50,400	-	50,400
Silos, 5000-ton each	6 silos =30,000	4 silos= 20,000	50,000
Silos 10,000 each	5 silos =50,000	2 silos= 20,000	70,000
Silo - Damascus	1 silo = 20,000	2 silos= 10,000	30,000
Silo - Aleppo	1st.stage= 50,000	2nd.stage=50,000	100,000
Total	200,400	100,000	300,400

The total is approximately 300,000 tons, excluding the existing storehouses in Latakia and other storehouses representing a general capacity for storage accommodation of about 420,000 tons in the Syrian Region.

In the light of the foregoing and after the Government had remarked that this study has been made in the Extraordinary Budget Law, the Great Projects Foundation decided to undertake a detailed study of this important project and to have it financed from the present credit appropriated for the important projects that are of advantage to the country.

B. COMMUNICATION PROJECTS

RAILROADS

PREFACE

It is evident that the means of Communications in the present modern era are the fundamental basis for the economy of the nations and the effective implementation for exchange of Commerce and one of the vital elements of Civilization.

By virtue of adequate means of Communications, exchange of commodities and disposal of products, can be accomplished.

Furthermore means of communication have become a Scale for measuring the extent of nations' advancements and level of livelihood. For this reason, nations compete in devising effective means for improvement of the existing means and do their utmost for adopting the most modern lines for increasing this standard of Security.

The Geographical Situation of the Syrian Region constitutes an important point linking Orient and Occident and an import centre where nations civilization and culture have met. Moreover Syria has fertile soil, rich of its abundant products and natural wealth.

Despite its vast area, Syria is still poor in respect of its means of Communications and for this reason we have to spare every effort in order to improve and expand its means of communications to keep pace with the rapid evolution and to place this evolution on strong foundations.

It is recognized that the Syrian Region is immensely vast in comparison to its population. Its area is 185.000 square kilometers whilst the total population is not exceeding (4,150,000) (1956 census). The average density per square kilometer is $\frac{4,150,000}{185,000}$ = 22,5 souls which is a feeble rate. Should we take the productive capacity of the Region into consideration.

The Syrian Region is an agricultural country, having very fertile soil. Its products of grains and cotton are beyond the local consumption of the Region.

Measures should therefore be taken to dispose of the surplus products by sale in world markets, especially in the European markets.

As the harvest season in Syria is one month earlier than the season in European countries, it is essential to gain the market which cannot be reached except by quick means of transportation to port of export for shipment to importers in various countries of the world.

Syria has already a modern port, that of Latakia, which has greatly expanded and flourished. In view of recent improvement this port is capable of complying with the needs of the Region in addition to transit merchandise of the neighbouring Countries.

Immediate steps should therefore be taken to establish convenient and good means of communication for linking the zones of production with the port of shipment.

If we lay a glance at the area of lands which was formerly cultivated and compare it with the area practically suitable for cultivation, we will discover the huge difference. For instance the area of land suitable for cultivation rose from 3,485,251 hectares in 1952 to 4,650,086 hectares in 1957, i.e., with an increase of 1,164,835 hectares which is equal to 33% whereas the area of unexploited lands, but suitable for cultivation, decreased from 3,139,545 hectares in 1952 to 2,561,017 in 1957, i.e. a decrease of 678,528 hectares or 22%.

This indicates that there are new lands which have been reclaimed and added to lands suitable for cultivation which have been practically cultivated in addition to the area which has been exploited and which was previously suitable for cultivation. This will bring the total to 7,250,000 hectares or equal to $\frac{7,250,000}{1,850,000} = 40\%$ or the total area of the Region which is a fair figure, if we take into account that this area does not include forests and natural pastures.

It is to be observed that if we wish to make an account of this increase in respect of Governorates we will find, Aleppo, Euphrates, and Jezira had the greatest share.

There are reserve areas of lands suitable for cultivation in Jezira and the Euphrates but as these zones are not well furnished with means of communications and furthermore are not thickly populated owing to many wealthy people having refused to undertake cultivation.

This state has comparatively changed as the road of Aleppo-El Rekka-Deir El-Zor has been improved and the modern mechanical implements are progressively being employed, this lead to marked increase in manpower. On the other hand the increasing use of lorries has encouraged cultivators to expand the agricultural areas as they could find ample means for transporting their agricultural products either to local or foreign markets abroad.

Had not means of communication been comparatively improved during recent years, agricultural developments would have not evolved in the Euphrates and Jezira Governorates in such a manner.

This means that if we wish to benefit in a wide extent of the potentialities of these and other zones, we have to take immediate steps for creating a regular and organized network of means of communications.

It is hoped that as soon as irrigation in these zones has been organized, the land will give abundant yields and in this case arrangements must be made for the transport of the products to ports of shipment at lowest expenses, and in shortest times. We will then gain two factors, i.e. time and competing prices of world markets.

As an example we mention as proof that the transport of grains from Jezira to Latakia in 1953 costed one third of the original value of barley and more than fifth that of wheat, i.e. approximately 50 to 60 pounds per ton, a matter which rises prices of products and decreases profits.

Bad means of communications increase cost prices. Fuels necessary for agricultural machinery are more expensive in Jezira than at Homs which is due to bad communications. This is not confined to agriculture but it extends to other products.

Evolution during last years has created many industries such as spinning, fertilization and sugar as well as exploration for petroleum is proceeding regularly which indicates that Jezira contains substantial quantities of this product.

We mention other examples for the agricultural and industrial evolutions in the Syrian Region during recent years.

Statistics show that Syria has produced during 1952-1953 about 1,673,438 tons of various grains, the most important of which are wheat and barley, whereas this production reached 1,787,800 tons in 1956. The production of cement increased from 150,595 tons in 1952 to 325,548 tons in 1956, similarly cotton increased from 126,023 tons in 1952 to 252,500 in 1956.

These examples give us an idea of the evolution of commerce in Syria due to its progressive increases in production. We have also to bear in mind that commerce in Jordan and Iraq is also flourishing which leads to increased transit movement across Syria.

Furthermore augmentation of agricultural areas in Jezira and the Euphrates as well as the execution of major irrigation projects will lead to increase of population in these areas. We have previously explained that the average density of population in Syria amounts to 22,5 souls per square kilometre. Whereas if we count the density as per Governorate , Damascus represents 43, Homs 9, Latakia 102, Hama 36, Aleppo 52, Hasaka 11, Deir El-Zor 6, Sweda 21, Dera' 38, which indicates that the average density in these productive zones is very low.

If there are factors which compelled village inhabitants to emigrate to towns, we have to resist this practice and act to the contrary by encouraging occupants of thickly populated zones to remove to villages, especially to Jezira and the Euphrates or perhaps further than that by persuading inhabitants of the South Region to inhabit these zones.

In all these cases, towns and centres for commerce and Industry should be established and consequently an internal wide movement of transportation which entails the need for genuine and regular means of communications.

The Existing Communication Networks

What are the possibilities of the existing means of communications in the Syrian Region and what are the measures to be followed in their expansion and organization?

Roads are divided into the following kinds:

I. Land Roads, consisting of:

A. Railroads

B. Motor car roads

II. Air Lines

III. Water navigation

We will give an indication for the first kind of roads, i.e. Railroads.

Land Roads

A. Railroads: A glance at the existing net works

The total length of this network in the Syrian Region is 858 kms. If we make a comparison between the rate of the length of the railroads to the area of the Region, it will be found:

$\frac{858}{185,000} \times 1,000 = 4.65$ km per 1,000 square km, which is a feeble rate as compared with other countries of the world.

We give the following examples:

The 1,000 square kilometers contain railroads (Statistics before 1950) in the following proportions in:

Belgium	161 kilometers
Great Britain	100 "
France	75 "
Unite States	45 "

These figures prove that Syria is suffering of serious shortage of railroads.

Railroads in Syria are of two kinds:

a.	Wide railroad	1435 m/m
b.	Light railroad	1050 "

a. Wide Railroads

These consist of:

1. The line stretching from Tel Koshak (Iraq boundaries) and Kamishli (Turkish boundaries) having the length of 82 kms.

2. The line stretching from Joban Bek (Turkish boundaries) to Mosalinya and Aleppo having the length of 64 kms.

3. The line stretching from Mosalmiya to Midan Akbis (Turkish boundaries) having the length of 103 kms.

4. The line stretching from Aleppo to Homs and Akkari on the (Lebanon boundaries) 260 kilometers long.

5. The line stretching from Homs to Lebanon boundaries via Riak, 39 kms. long.

The grand total will be 82 + 64 + 103 + 260 + 39 = 544 kms.

It is to be observed that the sector stretching from Nasebun to Joban Bek is in the Turkish Republic.

b. Light Railroads

These comprise:

1. The line stretching from Damascus to Surghaya (Lebanon boundaries) via Beyrouth 67 kms. long.

2. The Hejazi line stretching from Damascus, Dera' up to Lebanon boundaries, and between Dera' and Homma with a length of 247 kms.

The whole total will be: 67 + 247 = 314 kms.

The rate of wide lines to the total network is $\frac{544}{858} \times 1 = 63,5\%$

The rate of light lines to total network will be:
100% - 63,5% = 36,5%.

We will later find that these rates are of great importance when we consider the weakness of the abilities of the light railroads in the Syrian Region.

A historical glance at the existing networks:

I. Rail line Baghdad-Ban.

The sectors lying between Koshk and Nasebun, between Joban Bek, Aleppo and Midan Ackibis constitute portions of the Rail Road between Baghdad - Ban (Germany) which was started before the outbreak of World War I. The object was mainly to connect Western Europe with Iraq and Arab Gulf, passing through the Syrian Region where it penetrates boundaries Ackbis and Muning to Aleppo and turns back penetrating the Turkish boundaries again at Joban Bek and runs paralle to Arab - Turkish boundaries where it again penetrates into the Syrian lands at Kamishli and leaves it to Tel Koshak to enter into the Iraqi lands.

The preferential right for this line was mainly given to the Turkish Empire Co. for Baghdad Railways, 1903.

The main idea for the construction of this line has been shaken after the termination of World War I as a part of the line has been destroyed and consist of dislocated portions in the various lands in which it runs across.

In 1932, a new agreement was made at which Syria was represented by a French Delegate (Syria was thence under French Delegation).

The following decisions were made:

1. Handing over the portion lying between Nasibeen and Joban Bok to a French Turkish Co.

2. Binding portions lying within Syrian Region with the Economic Ottoman Railways - Beyrouth - Homat and extensions).

On the independence of the Syrian Region in 1945, the portions lying within the Syrian Region were taken on by the State and are now known as Syrian Railroads - North Lines.

II. Railroads of the Economic Ottoman Railways Beyrouth - Homot and Extensions.

In 1891, the above company was granted a concession to construct a railroad stretching from Beyrouth to Damascus with a length of 147 kms.

This line was first exploited in 1895. In this year the Company was granted another concession for laying down another rail line to connect Riak with Homot and the name of the Company became known by the Ottoman Railway (Sham - Homot and extensions). Duration of Concession amounted to 99 years.

After considerable difficulty, the Riak-Homot line 192 kms long, was exploited in 1904.

In 1909 the Government compelled the Company to connect Baghdad with the Sea by means of a rail-line, the company laid down a rail line from Homs to Tripoli and was first exploited in 1911. Its length is 102 km.

The company began exploiting 580 kms until in 1954, the local Government purchased from the company the portion of this network lying within the Syrian Region and charged the Province of Northern lines to exploit these lines.

In 1956, a decree was promulgated incorporating these lines with the Northern lines and is now known by the Railroads of the Syrian Region. We shall apply the definition of Central Lines on these portions.

3. The Hijazi Railroad

The Sultan of Turkey Abdel Hamid adapted the idea of establishing a railroad for linking Damascus with Mecca for the following reasons:

1. Religious - The Sultan was considered as the Supreme Religious Leader dominating over the Mohammedan affairs in the East, and was aiming to link Muslim countries by means of this rail line in order to facilitate pilgrimage throughout Arab countries. The object of this line was also to increase the religious authority of the Sultan and also to strengthen relations among the Arab nations.

2. Economic - It is evident that this line will stabilize economy throughout the Arabian Peninsula.

3. Political - The Sultan was aiming to establish his authority on the Arabian Peninsula and to control movements of hostile tribes. On the other hand pilgrims were always exposed to the attacks of highwaymen.

A campaign was instituted for collecting subscriptions and contributions from Islamic countries. Great amounts of money were donated. Furthermore orders were given a part of the salaries of employees in a compulsory way, new taxes imposed and Customs dues were raised.

Works for laying down the line started in 1900. In 1903 the line from Damascus to Dera' and Amman was exploited, length 223 kms. In 1904 the line was extended to Ammen, and in 1909 the line reached Mecca, stretching for 1517 kms. When the Ottoman Empire collapsed after the World War I. Many portions of the line were ruined due to war operations, the remaining portions were divided among the nations which were instituted on partitioning the Ottoman Empire.

The Syrian Region was given the share of the portion lying within its territory with the total length of 200 kms and is being operated by a special administration attached to the Council of Ministers.

This line will later be defined as the "South Lines".

Technical specifications of the present network.

The technical specifications can be summed up in the following table:

Specifications	North Lines		Central Lines		South Lines
	Aleppo	Jezira	Wide Lines	Light Lines	
Width of line m/m	1,435	1,435	1,435	1,050	1,050
Weight of track km	37,400	36,500	30,000	27,600	21,500
Number of sleepers in km	1,429	1,333	1,152	1,222	1,444
Kind of sleepers	metal	metal	metal	metal	metal
Maximum tonnage accepted for every axle spring ton	16,700	16,700	15,000	13,000	11,000
Half diameter of minimum inclination					
Outside stations	400	400	300	100	250
Inside stations	180	180	250	91	94
Maximum inclination mm	35	8	20	27,5	20

Freight transported on present networks statistics of 1956 indicate that the volume of goods transported by present railroads is estimated as follows:

1. North Rail lines 559,478 or
70,565,167 metric ton

This quantity consists of:

40% or 224,000 ton internal transports
28% or 157,000 " transits to Iraq
32% or 178,000 " transits to Turkey

As to the internal transports amounting to 40% the various kinds of grains represent 87% of these transports.

2. Central Rail Lines

1. Wide Lines 230,000 or
49,624,955 metric tons

This quantity consists of:

45% or 107,000 ton for local transports
55% or 123,000 transit to Iraq

2. Light Lines 149,000 ton or
8,836,302 metric tons

This quantity consists of:

5% or 7,500 ton for internal transport
and 95% or 142,000 ton transit to Jordan

3. South Rail Lines

175,785 ton
or 22,748,000 metric ton

This quantity consists of:

16% or 27,447 ton internal transports
and 84% or 148,338 ton transit to Jordan

Passenger Transportation

The number of passengers transported by rail lines in 1956 amounted to:

29,291,000 passengers kilometric by north and central lines
22,027,000 " " " south lines

It is to be observed from previous statistics that the greatest quantities of freight were transported on the North Lines either in respect of internal transports or to transits whilst this quantity decreased in the Central Line and will further decrease in the South Line, had it not been for the Government taking measures to transport substantial quantities of Jordan transits through Hijazi line in order to strengthen the line and to safeguard it of any shortages from which it cannot rise again.

Transports of passengers on south lines reached a reasonable rate as compared with the rest of the networks because the Government arranged for some years to convey the bulk of pilgrims on this Line. On the other hand transport of passengers between Damascus and Homs constituted an important factor in the increase of this figure to that level.

It is certain that those statistics confirm the weak possibilities of the existing railroads network, in addition to rivalry of motor cars.

The following are the main causes of this rivalry.

Motor Car Roads - A glance at the existing network

According to 1956 statistics, the length of motor car roads amounts to 9235 Km. No further considrable increase took place. Of those :

2998	kilometers are asphalted roads
1062	" " levelled "
1522	Dusty roads but suitable for travelling.
5582	Total lengths of roads suitable for travelling

If we take the average density of roads suitable for transportation during all seasons of the year, we will find out that:

$$\frac{5582}{185000} \times 100 = 30 \text{ kilometers in 1000 square kilometers.}$$

This figure is evidently inadequate in comparison with the requirement of the Region more especially in the future.

This density is not distributed comparatively over Governorates. The following table illustrates this fact.

Governorate	Asphalted Road	Levelled Road	Dusty road suitable for transports during the year	Total roads suitable during the year	Dusty roads not suitable for transports	Total
Damascus	640	250	329	1219	874	2093
Aleppo	779	282	194	1255	617	1872
Latakia	417	10	796	1223	493	1716
Homs	201	185	120	506	5	511
Homat	139	95	28	262	245	507
Dera'	250	22	-	272	27	309
Sweida	112	41	30	183	129	312
Deir El-Zor	318	11	-	329	614	943
Hasake	142	166	25	333	639	973
Total	2998	1062	1522	5582	3653	9235

It will be elicited from the above table that the distribution of suitable roads for transports during all seasons of the year is not in agreement with the various areas of the Governorates. It is apparent that the two Governorates of Deir El-Zor and Hasaka which are the largest Governorates in Syria have only 330 kilometers each of roads suitable for transport during the year round.

Moreover these roads are not of considerable advantage as the asphalted parts of the roads are not more than 5 meters broad in the best roads and still the asphalted parts of the roads in Jezira and Euphrate Governorates are less than 5 meters, which is a deplorable state, for not coping with the requirement of modern transport means.

Competition between train and motor car enormously increased during recent years. The producers of cotton and grains prefer motor vehicles for the following reasons.

1. Adequate possibilities of motor vehicles loading and increased capacity.

2. Deficient possibilities of railroads. Specifications of trains and tracks as explained above give an indication of the limited tonnage of trains as not to warrant the transportation of the required quantities during the seasons.

3. The sites of railroads are not suitable. The North Lines runs parallel to north boundaries where between Nasebain and Joban Bek, it covers 381 kilometers within the Turkish lands.

Trains recrossing the boundaries more than once causes waste of time. Besides the procedure hitherto adopted in running trains on this line wastes considerable time without reason as between Kcshak and Nasebian a Syrian locomotive hauls the train and at Nasebain the Locomotive is replaced by a Turkish locomotive and later at Joban Bek the locomotive is replaced by a Syrian Locomotive. This explains that there is no good will and co-operation on behalf of either ends.

4. Rail roads only exist in a port of the road between the production Centres and port of export. The producer or exporter is very keen to prevent loss of time and money in loading and unloading for several times, using the train once and the motor vehicle again for sending the products to Latakia.

The North Rail Line terminates at Aleppo and the motor vehicle must consequently be employed for transporting the grains from Aleppo to Latakia.

We have to mention that the possibilities of the light railroads are by far smaller than those of the wider railroads. The Sector between Beyrouth and Damascus contains in its Lebanon parts, across the Western Range, a maximum bending of 7% which entails the use of cogs to enable trains to ascend. On the other hand the Commercial speed of this part does not exceed 12 kilometers per hour and the maximum loading of the train becomes very small.

It is therefore no wonder that Jordan prefers motor vehicles for the transport of their commodities than the trains.

Furthermore motor vehicles can run through various kinds of roads and are able to run in roads having maximum slope of 10%.

It is therefore essential to find a solution for the communication problem and to organize the networks perfectly so that it could bear the burden of transportation which is expected to be markedly increased in the course of the next few years. What we direct our attention to railroads or to motor roads ?

In fact the answer is difficult as former years proved that no preference can be given to either .

In nearly every case every country has, in addition to adequate railroads, a well network motor roads, as each kind has its own merit. For this reason care should be given to these two means of communications on the basis of policy to be laid down by the state for safeguarding the interests of the public and for preventing competition between the train and the motor car by limiting the scope of work of each on the basis of the economical and social situation of the Region.

Comparison between train and motor car.

Studies revealed that transport by motor cars is not economical if the distance exceeds a specific limit. Certain countries fixed this distance by 200 kilometers and others by 200 kilometers. This in fact depends on the geographical situation and special circumstances of the country.

Other causes are involved such as area of the country, population, maximum density of its various zones and the basis on which the economy of the country stand.

These basis may be agricultural, industrial, commercial (including transit) or tourism etc.

We will find that the Syrian Region is large in size but small in population. The maximum density is variable in all zones. In respect to its economy, it is a first class agricultural Region in so far as production is concerned and commercial in respect of its situation with the neighbouring countries (transit transports). It has possibilities and abilities which would in future ensure to become a first class tourism centre.

The expansion of areas of irrigated lands to the level we have previously explained will lead to the movement of considerable number of the citizens to these zones.

The prevalence of civilization would create an active movement of internal transports. The case therefore calls for safeguarding the transportation of the citizens and ensuring safety of commodities and other products conveyed to them for their own use.

An internal commercial movement will be established in these areas and also between these areas and other areas. All these services will be performed by trains in a satisfactory manner.

It is advantageous to make account of the seasonal transportation movement. Disposal of the greatest volume of our products, if not all, must be undertaken in the course of 5 and 6 months of the year, in addition to other commodities and transits. During the other half of the year, transportation will be confined in exporting and importing of articles of consumption and transits.

This seasonal phenomenon has a great effect on exploitation of lines of communications and its economical balance. It is a factor of prime importance and have to be placed on the top of studying means of communications.

When could therefore observe that:

1. The new studies regarding the establishment of railroads in Syria are based on running trains having the gross tonnage of 1500 tons, i.e. its net tonnage varies between 980 - 1000 ton. If we suppose that a lorry conveys a net load of 14 ton, the number of lorries required for conveying the train load will be 980÷14 = 70 lorries which is a considerable figure. This means that a railroad train is more efficient in transporting substantial quantities of commodities at one time than lorries.

2. Studies show that a train with the gross tonnage of 1500 can be hauled by a Diesel 1600 H.P. at a speed of not less than 20 kms. between Jezira and Aleppo which can be raised to 60 kms. per hour according to the gradient of the road. This means that the number of lorries which we estimated at 70 for conveying the same quantities, will comprise:

70 x 220 = 15,400 steam horse or equal to ten times the train power
(220 = the capacity of a large loaded lorry by horse).

3. The program for construction of silos for storing grains in various zones especially in Aleppo and Latakia regulates transportations by railroads for its lower charges. In this case it is possible to transport grains without being put in sacks, thus saving value of sacks and packing. Grains will be transported in this manner in special trucks specially assigned for this purpose which will be unloaded to reservoirs by means of tubes and delivered into steam ships in the same manner.

Railroads are therefore distinguished of accelerated of transportation of this kind of products which also save the value of sacks and packing.

This economy is of great value due to the transport of substantial quantities which constitute one of the important phenomenons of the Syrian Region.

4. We will give an idea of the Railroads charges and fees of conveyance by lorries.

The length of the Line intermediating Kamishli and Aleppo and Latakia is 750 km. If we assume that 2,5 million ton will be annually transported to this direction, Kamishli - Aleppo - Latakia, on the understanding that half this quantity will be transported in the course of 4 months at the rate of 10 ton daily, and the other half during 8 months at the rate of 5000 tons daily, and if we take into account the time of affluence, we will find that the time taken by the various means of conveyance is about 5 days for the freight trains and 2,5 days for the passenger trains, estimating the net loading of the train at about 1000 tons. This means that we will require 25 large locomotives, 7 shunting locomotives, 2700 freight cars, 5 passenger trains, the cost of which is based on calculations:

Construction of the Line = 360 million pounds
Value of Locomotives = 30 " "
Value of freight cars = 60 " "
Total = 450 " "

Conveyance of this same volume by lorries will cost:

Construction of new roads and repairing old ones = 85 million pounds
Cost of 2700 lorries = 135 " "
Total = 220 " "

The difference will be 230 million pounds having an annual interest of 11,5 million pounds at the rate of 5%.

Fuel consumption comes next for discussion. We observe that a Diesel locomotive 1600 H.P. has an average consumption of 3 litres per kilometer or 3/100 = 0.003 litre per metric ton, whereas lorries consume 0.5 litre per kilometer of 0.5:14 = 0.036 litre per metric ton i.e. 0.036:0.003 = 12 times the consumption of the Diesel locomotive for transporting the same quantity.

If we assume that we have annually (one million ton for transport between Latakia - Kamishli) the total transport in both directions will be:

2.5 + 1 + 0.75 = 4.25 million ton at an average distance of 600 kms. for either directions (0.75 million ton weight of containers to be returned to locality of despatch).

The average quantity of fuel consumption for a train is:
2,250,000 x 600 x 0.003 = 7,650,000. and for passenger and shunting trains 1,350,000
Total 9,000,000

In lorries = 4,250,000 x 600 x 0.036 = 91,800 litres.

The difference will be 83 million litres (or about 12,5 million pounds at the rate of 150 pound as an average cost per ton) which by far surpasses the interests of capital funds placed for the construction of roads and railroads.

It may be thought that there is significant difference between expenditures for railroads and construction of roads. The fact proves the contrary. Lorries have an amortization period of 5 years on the average whereas railroad equipment will be amortized after the following periods.

30 years for locomotives
40 years for freight cars.

If we assume that it will be amortized in an average period of 35 years, this means that we will amortize lorries at the rate of 135 x 35 : 5 = 945 million pounds with an average rate of 945:35 = 27 million pounds per year, whereas railroad equipment will be amortized at the rate of 90:35 = 2,7 million pounds per year. Loss due to the employment of lorries will be 27 - 2,7 = 24 million pounds annually.

Remarks: The actual cost of fuel consumption can be found out by the application of the law on compound interests as the value of the apparatus decreases per consecutive year and consumption will therefore be estimated on these basis:

As to railroads those are estimated at an average basis as follows:

50 years for railroads at an average rate of $\frac{360}{50}$ = 7.2 million pounds

30 years for locomotives at an average rate of $\frac{85}{30}$ = 2.8 " "

(Parts of roads are amortized during various periods for example railroads, the unlevelled in 100 years, others in 60 and the track in 40 years. In roads: 60 years for unlevelled and 20 years for surface roads).

The average difference will be 7.2 - 2.5 = 4.7 million pounds annual increase in railroads.

We notice that the rise in cost of railroads and increase in its consumption is due to the fact that the Latakia - Aleppo Line is rugged and cost four times as much as those in levelled lands.

The difference between wear and tear of railroad tracks and road and structure will remain at 20 million pounds yearly. This will increase the National Revenue by 20 million pounds per year from Latakia - Kamishli - line only.

Investments and cost of maintenance come next. If we assume that the number of workers in lorries will approximately be 2700 x 2 = 5400 persons and that the railroad, in the position we outlined, will require the same number of workers and will also draw the same annual wages as the lorries workers.

In respect of cost of maintenance, this is difficult to estimate as it is firmly connected with the methods of investments. However, we assure that its rate in railroads is lower than its roads and lorries.

In this connection we have to treat the problem within its national aspect.

It needs not be explained that railroads enjoy excellent advantages. It is a national establishment following standing rules and regulations. The prices and charges are stable and not susceptible to fluctuations of supply and demand.

It helps in transporting cheap grains at reduced prices, recovering differences by raising charges, of dearer grains but the effect of the transport charges on the price of grains is insignificant.

Furthermore it is distinguished by its precise fixed times, and being far off from personal favouritism and contestations, in addition to Security and convenience.

Maintenance of railroads absorbs a great number of manpower and employment of local materials whereas the opposite is the case in respect of lorries as they have to be imported with their spare parts from abroad thus sacrificing great amounts of the national revenue for securing hard currency for the important of the lacking equipment.

Furthermore in case of emergency and international crisis, imports become so difficult and may cause to partial or entire cessation of the running works.

We therefore emphasize that transportation by railroads is much cheaper than by lorries and we can say that the preliminary average estimate for the cost of transport of one metric ton including consumption of equipment and capital funds is 3.5 Syrian Pounds, whereas in lorries it cannot be lower than 4 - 4.5 piastres per metric ton.

Transport charges per metric ton by railroads will become lower whenever the volume is greater.

Proposed projects for Railroads in the Syrian Region.

The Consecutive Government during former years felt the necessity for expanding the railroads network.

Various projects have been laid down by Government organizations, World firms and national personages for expanding the railroads and establishing new rail tracks.

They have all agreed to lay down two main lines i.e.:

A. A line connecting Latakia - Aleppo and the Jezira

B. A line connecting Homs and Damascus.

We will review later the practical stages which have been studied for these two lines.

1. Projection for the institution of a railroad between Latakia-Aleppo and Kamishli.

Article 1 of Appendix VI of the Exceptional Budget issued by Law 116 dated 29.8.1958 has inserted the necessary funds for studies for the establishment of railroad track between Latakia - Aleppo - Kamishli passing across the Euphrates and Khabour banks.

In the auguration of the year 1956, the Ministry of Public works and Communication announced an advertisement calling for quotations. Several world concerns gave offers.

As the offer of the Belgian Sectraco Co. was the lowest and most favourable and a contract was made with this company to undergo study of the project. Work started on 15 September 1950 and will last for 20 months.

In laying down the technical specifications for the new track, it was observed to conform with the modern lines of transportation and the characteristic nature of the Syrian Region.

These specifications are hereby summed up. The reader can make a comparison between these and those of the existing networks.

Gange of track : 1435 mms.
Maximum slope (Zone between Aleppo - Latakia) 12% mountainous region
(Zone between Aleppo - Kamishli) 6% even regions.

Minimum half diameter Aleppo - Latakia 400 m mountainous regions
slope Aleppo - Kamishli 600 m even regions

Inside stations 250 m
No. of sleepers - weight of unit 70 kilogram 1700 in a kilometer
Weight of track 46-50 kilogram in meter

Description of project:

The object of laying down this railroad track is to connect the Syrian wharf of Latakia with the production zones at the Euphrates valley and El Khabour. The projects for irrigation and reservoirs which will be executed in this zone will increase the area of irrigated lands by 1100,000 hectares.

Lands pending exploitation in these zones are scattered on the banks of the Euphrates and Khabour and in the North-Eastern part of Jezira and the part stretching from Deir El-Zor to Abou Kamal.

We can specify two zones of this line:

1. The Western zone lies between Aleppo and Latakia, 206 kms. in length .

This section starts at Wadehi village on the existing railroad between Aleppo and Homs and at a distance of about 10 kms. south of Aleppo and runs to the West passing across Kafr Jalab, Kafr Noran and Abin Kamaut el Akhwan and turns to the South close to the Western foot bodering Roh plain.

The second line: starts from Zorba and turns to the South West passing across Kassibino, Arbikh and finish es until Adib where it turns to the North West in a rugged zone until it joins the first slope at a distance of 4 kilometers to the South of Bishmaroun.

The line resumes its course on the western foot of the mountain abutting Roh plain and bends to the West, near Mohmeal crossing El Asi at a distance of 6 kms. south of Shagour bridge, over a bridge 50 m. long and turns to the north ascending the mountain foot under Shaghour bridge station lying at less than one kilometer to the North West of the City.

It still resumes its course by constant ascensions and then turns to the west after Shagour village penetrating some tunnels and crossing over high bridges until it reaches its highest points at Badoma at a distance of 4 kms. south of the Alexandron territory.

It resumes its stretch through a rugged zone requiring tunnels and bridges until it reaches the valley of the El Kebir River at Safkhoun and carries on in this valley crossing Selsaf, Jandaria and Singwan up to Latakia where the sorting exist to the south of Latakia and also the freight station. The stations are connected with the supply platforms of Latakia wharf which were studied by the Company entrusted with the wharf project.

The length of this section is about 206 kms. of which 108 kms. lie between Aleppo and Shagour bridge and 98 between Shagour bridge and Latakia. The approximate expenditure in the preliminary studies amounted to 203 million pounds distributed to 55 million for the section lying between a bridge, between Aleppo and Shagour bridge, 148 million for the section between Shagour bridge and Latakia. It is observed that the expenditure of this section is expensive. The reason is due to the difficulty in the application of the specifications on this section. A number of tunnels about 4.5 kms. long are required, in addition to overhead bridges 2.5 kms. long. All these industrial works exist in the zone lying between el Shagour bridge and the valley of El Kebir river.

If we compare between the length of this section and its expenditure, we will find that

(In the section between Aleppo and El Shagour bridge) $\frac{55}{98}$ = 560,000 pounds per kilometer.

(In the section between El Shagour bridge and Latakia $\frac{148}{108}$ = 1,350,000 pounds per kilometer or an average of $\frac{203}{206}$ = 1 million per kilometer, which is a very high cost. It is essential to make the following remarks.

A. If we follow the slope passing from Idleb (between Aleppo and Shagour bridge) this increases costs of this section by 25 million pounds.

B. It is possible to economise 25 million pounds from the section lying between Shagour bridge and Latakia by accepting some specifications exceeding the limits contained in the conditions pamphlet, i.e., maximum gradient: 1.5% instead of 1.2%

half diameter minimum slope : 300 meters instead of 400

Should we accept these specifications, the cost of the Line from Aleppo to Latakia would be: 203 - 25 = 178 million pounds and the length of the line will be 199 kms. $\frac{178}{199}$ = 900,000 pounds per kilometer.

We will see later the steps taken in respect of this line.

2. The Eastern Zone lying between Aleppo and Kamishli, 560 kms. long.

This section starts from El Wadehi village on the present Railroad which runs on this same line for about 5-6 kms. then turns to the South of Aleppo to the east passing outside the city reaching Niope village at the distance of 4-5 kms. east of Aleppo. In this zone the largest sorting and diversification station of Aleppo lies at the zone, in which it separates from the present railroad, it forms a triangle which allows the passage of passenger trains arriving from the east and the south entering Baghdad station which will remain as a passenger station. On the other hand, the existence of the line at a distance of 3704 kms to the south of Aleppo, will save the city from the great din of the diesel engines. The line continues its course to the east direct to the Euphrates where it reaches the river at Moraibat lying at a distance of some kilometers to the north of Maskana where it crosses the river over a bridge 336 meters long. This bridge has been designed to allow passage of motor cars outside times of passage of trains.

It then continues its course running parallel to the Euphrates from the North keeping on with the river course in most places until it reaches el Rokka city passing to the South where the station stands, and carries on to Deir El-Zor until it reaches Kassobi village at a distance of 70 kms. from Rokka. Here we could find two main slopes.

The first which is the East slope, from which the line proceeds parallel to the Euphrates up to Deir El-Zor town where the sorting and diversification station and the freight station stand at 4 kms. to the North West of the City. The passengers station lies in the town itself.

The line continues its course to the North to El Hasaka in parallel to motor car road passing near to kilometer 47 to the west until it reaches el Hasaka.

The second which is the West slope branches from the first at Kosobi and runs for about 20 kms. to the north of El Haloka valley and branches into two, one branch of which runs to the south east until it meets the first slope at a distance of 14 kms. north of Deir El-Zor and the second turns to the north east until it reaches the first slope at 2 kms. south of El Hasaka.

The line then proceeds to Kamishli passing to the east of Hasaka and crossing El Khabour river by means of a bridge 135 m long and runs to the northly direct to Kamishli crossing a collection of rivulets until it reaches Kamishli where it joins the north Railroad.

The length of the line is about 562 kms., divided as follows:

Aleppo - Hasaka (El Merobat)	102 kms.
Maskana - Rokka	103 "
El Rokka - Deir El-Zor (Eastern Slope)	127 "
Deir El-Zor - El Hasaka	143 "
El Hasaka - Kamishli	87 "
Total	562 "

Its estimated expenditure is 183 million pounds. The expenditure per kilometer will be $\frac{183}{562}$ = 340,000 pounds including, bridges and big stations which is a reasonable cost in the preliminary studies.

It is to be observed that the specifications of the line in this section are satisfactory within the limits stipulated in the pamphlet of conditions.

If we follow the Western slope which is not passing by Deir El-Zor, the length of the section between el Rekka and El Haleka valley is 90 kilometers and between El-Haleka valley and Hasaka from one direction and Deir El-Zor from the other direction is 180 kms. so that the length of the line between El Rekka and Hasaka in the two cases shall be:

127 + 143 = 270 kilometers - Eastern slope
90 + 180 = 270 kilometers - Western slope

Cost of the two cases:

75 million pounds - Eastern slope passing via Deir El-Zor
77 " " - Western " " via El Haleka Valley

We observe here that the length of the line between Rekka and Hasaka does not differ either it passes by the way of Deir El-Zor direct or a branch line is laid down. On the other hand expenditure in both are similar.

What are the differences therefore between the two slopes?

The Eastern slope has the privilege of having direction passage to Deir El-Zorand to a main station and also for being in close proximity to the Khabour Valley and the productive zones which is not the case with the Western slope. There is only a sole disadvantage in that the grains loaded from Kamishli to Hasaka have to cover 60 extra kilometres more than the Western slope.

Although the Western slope is shorter but it has a lot of disadvantages in that the sorting and diversification station will not be at Der El Zoor but it will be at El Haleka Valley where the three branches start.

Furthermore it exists in a dezert Zone far off from Der El Zoor which causes considerable difficulties to the management in securing residences for the staff and in transporting them to Der El Zoor. Other difficulties also exist in connection with the supply of water and electricity.

All these will evidently increase costs of investments.

Moreover, Der El Zoor, which is the largest Center in the Zone will become an auxiliary terminus station.

The project will not be considered complete unless Der El Zoor be connected with Bou Kamal on the Iraqi boundaries, so that Iraqi transits could be transported via this line to Latakia Wharf.

This will bring enormous advantages to the line and the Iraqi merchants will benefit by obtaining access to the Mediterranean by far shorter than that of the present North Line and in this case Deir El-Zor will be the main Centre of this Zone.

At any rate these observations will be considered in final studies. It is to be noted that the government has agreed that the line shall pass by Deir El-Zor decidedly.

Possibilities of New Railroad Track

The railroad track which we have already described penetrates the production zones at Deir El-Zor and Hasaka Governorates, which are the richest zones in the Syrian Region in respect of grain products, cotton and also petroleum in future.

The volume of transports, following installation of the line, may reach 2 million ton. Quantities of petroleum expected to be exploited will greatly affect this figure.

Studies confirmed that it is possible to operate trains having a net loading of 980 ton which could transport the whole yield within a reasonable time. Moreover the grain silos in Aleppo and Latakia will facilitate the constant conveyance of the products.

The Region will obviously gain from the installation of this railroad track as a greater part of the imported motor cars and accessories will be dispensed with, in addition to economy in fuel consumption.

The cost of transport on the Northern line amounted to 6.2 piastres in 1952-1956 per metric ton. This figure can be reduced in the new lines as they will become typical Arab lines not coming across foreign lands.

On the other hand the modern installations and the extensive volume of transports will help in decreasing these costs so that the grains shall be transported at lower fees than the motor cars and consequently the cost per ton of grains up to destination at port of transport will be lower.

Agreement of Economic co-operation with the Soviet Union.

The agreement of Economic co-operation with the Soviet Union including the Railroads in the Syrian Region. It contained two main contracts, number 947 and number 948 in respect of railroads.

These contracts took into consideration studies undertaken by other companies which cannot be overlooked.

The following is an outline of the main points in these two contracts which interest us:

1. Contract No. 947

Article 1 stipulated that the Supplier (Techno export in Moscow) shall offer technical co-operation to the client (The Syrian Government) in connection with the study of the Railroad between Aleppo and Kamishli.

The co-operation consists of:

a. Re-consideration of studies already prepared by a third party relative to the railroad between Aleppo and Kamishli and making comments thereon.

b. Supply of all tools and equipment necessary for the studies operations.

Article 2 stipulated that in order to carry out the works defined Article 1, the Supplier must, in the course of sixty days from date of igning the contract, send experts in the limits of ten persons for a eriod of two months.

2. Contract No. 948

Article 1 stipulated that the Supplier must hand over to the lient all tools and equipment required for the processes of studies in onnection with the railroad track between a point on the present Raiload track lying between Homs - Akkasi - Latakia.

Article 3 mentioned that the Supplier must hand to the client the suitable time - so that the works of the experts shall not be bstruckd and in all cases in a period not exceeding 12 months - all ools, equipments and implements mentioned in Article 1.

Why did contract No. 947 not mention the line between Aleppo- Latakia hereas contract 948 mentioned Homs - Latakia?

In fact the preliminary study on the line between Aleppo - Latakia onfirmed that:

1. This line is entirely expensive as its average costs are threeold the normal costs.

2. It comes across rugged zones requiring tunnels and overhead ridges which are costly which led to think of reaching Latakia via Homs p to the Lebanon boundaries (present Railroad) and instituting a new ine to connect the present line at a point as far as Latakia.

If we consider the nature of the western zone we will find that the lwiyeen mountains form a standing wall in respect of the railroad specications and it is impossible to cross this chain except through two tural passages which are: Aleppo - Shagour bridge - Latakia - Homs - rtus - Banias - Latakia. Otherwise no passage can be found between the ast and the coast except by digging a tunnel not less than 15 kms. long addition to other petty tunnels. This tunnel will be considered as one the largest tunnels of the World. It will cost huge sums. Its utilition is of certain difficulty owing to certain conditions which must fulfilled in the tunnel in respect to maintenance and repairs of mages caused by accidents.

The way from Aleppo to Latakia via Homs will lengthen the distance tween the two cities in respect to the direct slope passing by agour bridge by at least 180 kilometers but it continues its course comparatively levelled zones.

Towards this problem, the management ceased studies for the section tween Aleppo and Latakia in accordance with stipulations in the contract the Belgian Co. to the effect that the whole matter should be re-consiered and a final decision to be taken on the light of the conclusions of hese studies.

The final studies confirmed that the section between Homs and Akkari extremely uneven and contains natural characteristics which were not cepted in the new studies in respect of declivity and radius.

In order to obtain better declivity of this section will necessitate huge works similar in nature and expenditure to those which should be accomplished between Aleppo and Latakia.

The management therefore returned to the first idea and approached the Sea Tractor Co. to complete studies between Aleppo - Shaghour Bridge and Latakia on the basis of the original project for the direct line between the two cities.

Studies have actually started for this new line.

The Railroad track between Homs - Damascus

The Railroad track between Homs - Damascus is before all, characteristic of running across the Syrian Region lands inclusively. Therefore, it would be possible to dispense with the Railroad track between Homs - Riaq - Damascus. It will be standard gauge track in through.

This track will facilitate connection between the South Zone, the Northern Eastern and Western zones as its connection with Homs would lead for its connection with the present Railroad track between Homs and by the new track to Jezira. The institution of this Railroad track will connect all parts of the Region with each other by means by railroad tracks.

Repairing and strengthening the present Railroad track between Homs and Aleppo.

The establishment of the Railroad track between Damascus - Homs will guarantee connection between the South and the North of the Region by means of the existing Railroad track running between Aleppo - Damascus.

It is essential in this case to repair and strengthen the Railroad line on the basis that the specifications of the new Railroad line differ from those of the old railroad line.

It is therefore needful to strengthen the line between Homs - Aleppo so that its condition may conform with the specifications of the new Railroad tracks.

These repairs comprise:

1. Strengthening rails by being replaced by heavier rails.
2. Repairing curves in a way that the half radius of any curve shall not be less than the limits laid down for the new railroads tracks.
3. Repairing the maximum slope so as to correspond the maximum slope in similar lands of the new Railroads tracks.
4. Strengthening industrial installations, especially bridges to suit weight of modern trains which will be employed in future and weight on trains which will run on the various railroad lines.

5. **Strengthening the gravel layers and increasing number of sleepers to enable trains to run at the required speed.**

6. **Alterations in the signal arrangements to cope with the progressive increase in the daily trains.**

Conclusion

This is a brief idea of the situation. We meant to display the privileges of the railroads towards the motor cars and the extent of economy in employing Railway trains for the transport of the crops of the Syrian Region to the Port of Export.

Bridges

1. El Rekka Bridge

A. A glimpse on its history and present state

This bridge was built in 1942 by the British Army for War purposes. For this reason it is not strong enough to resist the high floods of the Euphrates because it was meant for temporary circumstances. The bridge is 624 metres long and 6 meters wide with two platforms one metre broad each.

The Syrian Government purchased the bridge on evacuation of the British Forces. In 1957, three pillars of the bridge were damaged due to the Euphrates floods and movement of traffic consequently ceased.

As a temporary measure, the Syrian Army constructed a steel bridge of the Bailey type for resumption of traffic until repairs had been accomplished in the old Bridge.

In 1958 the Ministry of Communication asked experts of Contract 949 to study the question of repairing the defective pillars as the "Manza Korate" Co. could not repair them. The experts, according to condition of contract 949 have also conducted studies for re-construction of this bridge. In the meantime they proposed, instead of its re-construction, that another new bridge to be built 2½ kms. to the West of the existing bridge. The preliminary studies relative to this bridge have already been accomplished.

B. Importance of this bridge from the economic point of view

The importance of the bridge from the economic aspect is summed up in the following:

1. The Rekka Bridge connects Jezira zone with all other zones of Syria and consequently makes possible the passage for all crops, cotton and other products.

2. The Bridge allows the passage of livestock of Jezira zone and Euphrates amounting to nearly one million which hinder the passage of motor cars. The experts proposed in their studies for a new bridge, the creation of a special road, by the side of motor car path, mainly for livestock so that motor car traffic shall not be hindered by the passage of livestock on the same road.

3. It will connect the Jezira zone with all theGovernorates of Syria by a civil motor car netting.

4. It will allow the passage of the motor lorries belonging to Petroleum Companies operating in Jezira zone and which carry heavy implements.

Moreover, the Rekka Bridge has great military importance in peace and war.

2. Deir El-Zor Bridge

Historical note on its present state and its economic importance.

The Deir El-Zor Bridge, besides being narrow, is also light and does not permit of the passage of heavy loads. It was hit with bombs during the last war and some of the iron ropes were cut which increased its weakness.

Heavy and broad motor vehicles were compelled to cross the Euphrates through Rekka Bridge which caused rush on the Bridge.

The reason for constructing this weak and narrow bridge is due to the then existing state of the Jezira zone which was not flourishing and had no substantial quantities of crops that would need a strong bridge, as the present state where the yield of Jezira has tremendously increased and will be doubled in the near future due to the irrigation projects which it is intended to be put into execution for this zone. It is therefore of high importance to construct a strong and wide bridge at Deir El-Zor which is of similar economic importance as El Rekka Bridge.

Both Bridges will help in the passage of Jezira crops to be connected with the passenger motor car netting, and also allow the passage of the heavy lorries of the Petroleum Companies, operating in the Zone.

The Experts of Contract 949 relative to Bridges, are now undertaking studies for the re-construction of the Deir El-Zor Bridge.

The Bridge in its present state can be strengthened in a limited form by constructing two platforms only, but it cannot be widened or strengthened to bear the passage of the heavy lorries.

For this reason the experts of contract 949 recommended the construction of a new bridge instead of strengthening the existing one to cope with present and future requirements of the zone. At the meantime they selected a site for the bridge but up till now no official studies have been decided for a bridge at Deir El-Zor.

The Bridge located at Tel Khalaf

There is a bridge at Tel Khalaf across the Khabour of Irish model which is submerged with water. The bridge lies at 100 metres from the Turkey-Syria boundaries.

Its economic importance is summarized in the following:

A. The Bridge connects the western zone of the Khabour with its eastern zone. A part of the crops of the western zone passes this bridge and the greater parts cross the Khabour on Hasaka Bridge.

B. It connects the Ras El Ain road with Rekka and other zones by the civil passenger motor netting.

Due to the fact that the present is constantly emerged by water which cuts communication, this decreases its present importance and furthermore it is in close proximity of Turkish boundaries which similarly decreases its strategic and economic importance. The Soviet Union Experts are now studying the project for a new bridge not liable to be submerged, but it was difficult to find a suitable site distant from the Turkish boundaries.

Bridge located at Shaddada

There is at Shaddada across River Khabour a steel bridge left by the British Army constructed in 1942 for the passage of military vehicles between Iraqi, Syria, 45 m. long and 3 m. wide. The position of the bridge from the hydraulic aspect is bad. It is probable it will get damaged by future floods. Besides, heavy vehicles are unable to pass. The only economical advantage of the bridge is due to its being one of the important means of connecting Syria with the brother Iraqi country and besides connects both banks of the River Khabour for the transport of crops of these zones. Its military importance is apparent.

The Soviet experts are undergoing studies for the construction of a new bridge in a suitable site with adequate width and load in conformity with the requirements of the zone. These studies are about to end.

Bridge at Sour Site

The French had constructed at Sour a suspension bridge of similar type as that at Deir El-Zor and was exploded during military operations launched by the British Army against Syria. The bridge piers remained in good order and the bridge frame collapsed in the River.

The Military and economic importance of this bridge are similar to those of El Shaddada bridge. Experts are now studying the re-construction of the bridge on account of its present suitable site and its lateral piers can be re-used. These preliminary studies are expected to be finished very shortly.

It has been agreed with the Soviet Union for the study of the following:

1. Study for the re-construction of Rekka bridge across the Euphrates
2. " " " " of Der El Zoor bridge across the Euphrates
3. Construction of a new bridge at El Halaf site across el Khabour River.
4. Construction of a new bridge at El Halaf site across ol Khabbour
5. Study for the re-construction of Sour bridge across the Khabour River.

The Geological Map

The project for preparing a geological map is an important project on the grounds that the scale of the existing map is 1/1,000,000 which only represent a general idea of the geological composition of the Syrian Region and deos not give an explicit indication of the limits of the visible layers.

The Program has stressed for the provision of a new geological map having the scale of 1/200.000. The map will be supervised by the Soviet and the Native experts who will take charge of the operations.

The scale of the map for certain zones pointing to the existence of abundant mineral wealth shall be 1/50,000 for an area of 30,000 square kilometers.

The motive for drawing up this map is due to its great advantage in defining the zones which studies point to the possibility of the existence of petroleum within its interior, and other zones containing chromite, manganese, iron, amiante, etc.

The map will also render services to Agriculture as it will indicate areas of suitable soils for agriculture and to what extent water penetrates into layers composing the interior of the soil.

the extraction of this buried wealth will reflect an advantages effect on the national economies of the Region and will help in creating industries which will double the wealth of the Country.

C Tourism

Tourism has immensely developed throughout the World after World War 11 and it plays an important part in the economies of many countries.

The economic and social evolution has created an atmosphere for the liking for travels and the desire to increase ones knowledge.

It has widened the scope of collective tourism for middle-class people who are better off and can avail themselves of the facilities offered by certain countries. They started making tours of travels to all parts of the World for their own profit and recreation.

The travels of these middle class people have reflected a marked change in the touristic industry as travels in the past were meant for luxury and were confined to well-to-do-individuals who used to travel to one place or few places were they used to spend money in extravagance. Nowadays, the situation has entirely changed as collective tourism has become in wide prevalence for the object for making tours to the greatest number of places within the shortest time.

The conversion of this limited tourism to one or few places, into tours of travels almost all over the world has caused sudden changes in the tourism tendency and special attention was concentrated to great cities having special characteristics.

It is evident that organized tourism is a profitable industry and necessitates a few number of staff.

It does not need considrable imports from abroad, either of alimentary articles or commodities for consumption as local products and workers are mainly employed. The income of its industry is a pure net income mostly of hard currency.

Touristic potentialities of the Region

The touristic potentialities of the Region are great and encouraging. Syria is famed for many touristic places known of their characteristic monumental and historical reputation, which give an idea of ancient civilization of our grand ancestors which attracts the attention of the tourist either in the various towns or in museums.

It is therefore highly important to maintain these monumental places displaying ancient culture and civilization so that visitors will keep good memories of these places.

Syrians considered as a channel where Orient and Occident meet. Its lovely warm weather and the changeable methods of eastern life prevailing in the Region attract the interest of tourists. In addition to the beautiful scenaries of mountains and the charming tranquil coasts.

It is self-explanatory that tourism develops in country enjoying social and political confidence.

Table No.1 confirms this fact. The figures indicate a marked increase in tourism for 1955 over 1954. The number of visitors non-arabs arriving at the Region in 1954 was (36327) persons where as this figure rose up to 90771 in 1955. A slight decrease happened in 1956 due to Suez Canal crisis and international political tension, the number of visitors dropped down to (34376) in 1957. The number of visitors from Arab countries amounted to 694438 in 1956 of whom 590016 from Lebanon, 106103 from Jordan, 25321 from Iraqi, 9423 from Saudi, 6151 from Kuwait and 8424 from Egypt.

The estimated figures supplied by Ministry of NationalEconomy for the year 1956 show that the average expenses of a foreign tourist during his visit to Syria was 12 dollars per day and the average daily expenses of the visitor from Arab Nations amounted to 5 dollars.

The average period of the visit of the Foreign tourist was 2 days for the Arabs the average was 5 days.

In accordance with these estimations, the total receipts from tourism - Arabs and Foreigners - amounted to 16 million pounds for that year.

We have to note that the touristic industry is a valuable resource for supplying the Region with hard currency.

Development of touristic industry is closely connected with the restaurants and hotel industry, improvement of tourism organization and travel offices.

Accurate analysis for stabilizing the touristic industry are explained later in this volume.

I - Restaurant and Hotel Industry

It is expected that the number of visitors to the Syrian Territory from foreign and Arab countries in addition to increased local travels, will be increased due to the established political and economic situations of the Region.

The welcome reception and all facilities offered to the visitor may give him satisfaction to prolong his visit and may lead him to make a good propaganda for the Region.

The abundance of restaurants and hotels constitutes an important touristic problem. The Region is badly in need of modern simple restaurants and hotels far off from luxury but should have the oriental imprint.

The existing hotels and restaurants are not suitable for the comfort of visitors and are not satisfactory for international tourism.

II - Roads

The existing land road nets leading to places of monuments of those having historical imprint are not encouraging for attracting tourists. Most of the visitors arriving from foreign countries employ the ordinary cars in their movements within the interior of the Region especially to places of monument outside great cities.

In order to encourage tourism and to prolong the duration of visits of the tourists without letting them feel any inconvenience, immediate steps should be taken for improving the existing land roads by widening roads, especially those leading to places of monuments and other places of historical fame.

At the meantime travel offices and tourism organizations should receive immediate attention.

III. Tourism Organizations and Travel Offices

The Syrian Region complains of the inadequate number of the Tourism Organizations and the small sized travel offices, the activities of which are confined to Damascus and Aleppo only throughout the Region.

The only clubs which perform Tourism transactions are: The Syrian Motor Club at Damascus and the Syrian Tourism Club at Aleppo. These are connected with the International Tourism Organization to which they belong. Their activities are only restricted to visitors who are members of other international clubs. On the other hand the small travel agencies undertake activities which are entirely different to those in similar agencies in foreign countries, as they only deal as insurance companies which is far off from its original objective.

In order to ameliorate the present state we are of opinion that government committees should be formed, the duty of which to be directed to: (1) Supervision of Tourism Organization and Travel Offices, (2) Supervision of hotels and restaurants, (3) Supplying guidance to tourist guides and to afford all possible facilities tourists and their welfare and (4) Establishing tourism agencies in foreign countries for encouraging tourism by all modern means.

D - Industrial Projects

Homs Petroleum Refinery

a. Introduction

The main object for this investigation is to review the economic estimation of the project for a Petroleum Refinery at Homs.

Execution of this project and construction of the Refinery started in the last quarter of the year 1957. It will be ready for use before the end of 1959.

The Techno-Export Co. of Prague undertook construction of the Refinery at the cost of 54 million pounds.

It is a Government Project which had been financed by the Ministry of Treasury - Public case of Debt.

The General Authority for Petroleum Affairs.

The Executive Authority for the Syrian Region - will take charge of the execution and management of the Refinery. It is an Authority with independent budget having juristic personality, belonging to the Ministry of Justice.

The capacity of this Refinery is one million ton per year. Its annual output of main petroleum derivatives will cope with the annual requirements for local consumption. As the volume of the Refinery output is not sufficient for the local consumption of the Region in respect of certain derivatives, it is therefore essential to import the lacking derivatives in the meantime exporting others in excess of production.

Certain petroleum wells have already been explored in the neighbourhood of Qora Chok to the North East of the Syrian Region.

Steps will be taken for exploiting this petroleum in commercial quantities. This zone is 500 kilometres distant from the Refinery.

Until this petroleum has been extracted in commercial quantities for transport to the Refinery at Homs, the Refinery will temporarily operate on crudes imported from external sources.

The Five-Year Program for industrial developments in the Syrian Region which was published in November 1958 indicated that exploitation of Qora Chok petroleum wells will be carried out in the limits of two million ton per year and will be borne by means of pipelines passing near Homs to Tartus Wharf.

The external sources of crudes are those of Iraq owned by the Iraqi Napht Co. Ltd. The crude passes across the Syrian Region near Homs by means of pipelines networks from Kerkook to Tripoli and Banias.

In virtue of the agreements made out between this Company and the consecutive Syrian Governments, the Government has the right to purchase quantities of crude oil sufficient for the local consumption of the main local derivatives at prices 8% less than those announced for crude oil at ports of bunkering at Tripoli, and Banias provided that payment of the said crude oil effected in sterling pounds to be used for financing purposes.

The fixed assets in circulation for operating this refinery at a capacity of million ton, are 85 million pounds.

On the basis of exploiting this Refinery under commercial competitive conditions, the annual production costs will be 76 million pounds and its general value is about 104 million pounds.

On making a comparison between annual cost of production and its value, we find that one pound spent in annual production in the Refinery will get 1.36 pounds income.

In view of the importation of crude oil and other equipment necessary for refining in addition to settlement of instalments and interests for the purchase of the Refinery, to Techno-Export at Prague, the direct increase in the National Revenue during production will be confined to value of refining which amounts to 33 million pounds. This sum is also equivalent to the economy which will be saved from the foreign currency. During period of construction the direct increase in National Revenue will be equivalent to local expenditure amounting to 12 million pounds.

The crude refining industry is a part of the Petroleum Industry. It comprises, exploration, excavation, extraction, collection transport and marketing.

The Five-Year Program for industrial developments quoted above, refers to the performance of these operations.

The following questions will be reviewed:

1. Evolution associating the execution of refinery project.
2. Refinery output and consumption of the Syrian Region of main petroleum derivatives.
3. Resources of Crude oil.
4. Construction and production costs. Value of production.
5. Other petroleum projects.

I. Evolution associating the execution of the Refinery Project

General description of the crude refining industry.

The crude refining industry is considered as one of the fundamental industries in most countries. Whenever these countries economically advance, their dependence on petroleum derivatives increases. These could be considered as the main sources for the greater part of the power.

The construction of the crude refining industry contributes in the development of industries.

The needs of this industry for many of the local raws will lead to the creation of many industries and expansion of the existing industries which is a strong factor in the advancement of the country.

On the other hand lye-products can be employed as main substances in other industries, especially in chemical industries which will develop these industries and will give the opportunity for local capital funds to be invested in these industries and perhaps, would also attract capital funds of foreign sources in view of these profitable industries.

The technique of which this refining industry and other complementary industries will naturally absorb a great number of workers who will get practised. This will participate in increasing the rate of employment and rising level of workers' wages.

In order to take advantage of these economic privileges which participate in raising the levels of national revenue and livelihood, most of the petroleum non-productive country, or whose production is inadequate for its requirements of petroleum derivatives, are keen for establishing the refining industry and importing the cheapest crudes.

It is to be noted that the construction of Refineries in the neighbourhood of oilfields will save the transport of additional quantities to cover the cost of transport of fuel for the Refinery and the quantities of petroleum wasted in the course of refining processes.

In the light of these circumstances, it will be discovered why the Western countries of Europe which are non-productive countries endeavour to increase their refining capacity as has happened in the period between 1938-1956 where the refining capacity rose up to light times, whilst in the United States of America the refining capacity was only doubled.

Refinery for the Syrian Region

At the present moment, the Syrian Region is not a producing country. Its extent of consumption of main petroleum derivatives justifies the construction of a Refinery on the basis of sound economy.

The consumption of main petroleum derivatives throughout Syria has been doubled 15 times between the period 1938-1958. The quantities of this consumption will reach 800,000 ton in 1960, the annual rate of increase being 15%.

The geographical situation of the Region will make easy the supply of crude oil, for operating the Refinery, through the pipe lines bearing the crude oil of the Saudi Arabia and Iraqi from Saudi Arabia and from the Iraqi Republic across the Syrian lands to bankering wharves at Banias, Tripoli and Seda. The annual capacity of these pipelines is 45 million ton of crude oil. Operation of first pipeline started in 1934

The question of obtaining crude oil for refining in Syria is easier than importing petroleum derivatives from the exterior on account of the passage of crude oil across its lands.

The pipelines passing across the Region serve as bottleneck for the products of the Iraqi Napht Co. Ltd. from the Oilfields at Mowsel and Kerkook in the North of Iraqi.

During its recent history the Syrian Region has exercised many political and economical pressures in getting its supply of petroleum derivatives.

Syria will remain dependent on the external resources until its crude oil in commercial quantities have been extracted and transported to Tartus via Homs.

It is expected that this will be accomplished in the next few years.

Evolution associating the execution of Refinery Project.

The idea of constructing the Refinery in the Syrian Region, for coping with the needs of Petroleum products is not novel. The consecutive Governments in power had endeavoured in various occasions to construct this Refinery.

In 1957 these attempts were realized and in the same year work started for the construction of a Refinery near to Homs.

The following is a summary of the circumstances which associated the execution of the Refinery:

Exceptional Budget for Economic Development

In August 1955, Law No. 116, relative to the Exceptional Budget for Economic Development amounting to 665 million pounds, was promulgated, for expending this amount within seven years 1955-1961.

The law stipulated that a special Authority should be instituted by law for the construction and exploitation of the Refinery.

A credit amounting to 80 million pounds was assigned for this purpose. The financing of the Refinery project was undertaken by the Public case of Debt.

In 13.7.1955, Law No. 89 was issued for the creation of the Public case of Debt Province.

The Syrian Petroleum Organization

In March 14, 1956, Law No. 200 was promulgated for the creation of a public organization having authoritative personality and independent budget entitled as "The Syrian Petroleum Organization".

The duties of this organization lie in:

1. Construction and exploitation of a Refinery in Syria and disposing of its products and dealing with all matters in this connection.

2. Importation of any sorts of petroleum whenever required and utilization of petroleum reservoirs at Latakia.

3. Sale and disposal of refined and imported products either locally or abroad.

This organization shall be attached to the Ministry of Public Works during period of institution and construction.

TABLE I

Tourism in Syrian Region

Number of Visitors and Nationalities

Country	1954	1955	1956	1957
Argentine	363	615	264	106
Spain	432	887	574	265
Australia	166	347	392	37
Germany	1673	5655	6043	3214
France	4227	7341	5792	525
United States	9768	15727	13929	4004
Iran	450	12039	8272	4830
Italy	1120	1898	2224	1244
Pakistan	258	1746	1321	1561
Great Britain	6135	9333	8736	767
Belgium	409	1037	985	356
Turkey	513	4043	5891	2362
Chili	129	33	8	-
Czechoslovakia	121	86	324	89
Denmark	409	121	692	428
Soviet Union	283	322	258	46
Sweden	752	212	797	309
Switzerland	527	1133	1087	539
Canada	279	653	747	323
Mexico	147	85	393	122
Norway	81	44	182	122
Austria	436	250	1356	465
India	244	501	1260	860
Holland	2989	228	950	506
Japan	209	151	547	473
Yugoslavia	510	791	599	458
Greece	559	896	2833	1290
Others	2857	24465	21956	8838
Total	36327	90771	88956	34376

It is observed that the time of visits by foreign tourists is usually April and September. July and August come next in importance.

TABLE II

Classification of foreign Tourists according to months of the Year

Month	1954	1955	1956
January	1237	1777	4014
February	1498	3794	4890
March	2814	6921	7576
April	6077	28085	11337
May	4607	5530	9341
June	1846	6135	6837
July	2964	7838	10184
August	2714	10847	10762
September	2511	7802	11988
October	2434	3998	6294
November	2604	3748	2886
December	2271	4296	2294
Total	36327	90771	88403

The administration of this organization shall be undertaken by a Board of Management who was provided with full power.

The works of this organization are not subject to normal administrative and financial regulations to which all Government Departments submit. The capital funds for the Refinery were fixed at 80 million pounds given as loan to be refunded gradually within a period not exceeding 15 years starting from Commencement of exploitation in accordance with contracts made out by the Ministry of Finance (The Public Case of Debt) with the Organization.

The prices of refined products shall be fixed in a level that will guarantee recovery of expenditures for exploitation, consumption and reserves for renewals.

On the other hand the organization will similarly guarantee settlement of financial obligations, lying in the settlement of instalments and interests within a period not exceeding 15 years starting from the date of commencement of exploitation.

The Government was empowered to contract for the purchase of a petroleum refinery at the expense of the Organization, without by tied up with the provisions of the General Audit Law and conditions of bids, provided that the relative contracts shall be sanctioned by the council of Ministers.

On 15 April 1956, Decree No. 1545 was issued authorizing the Ministry of Public Works and Communications to represent the Government for contracting, at the expense of the Organization for the purchase of the Refinery, provided that the contracts ratified by the Ministry shall be approved by the Cabinet.

On 14 October 1956, a contract was made between the Ministry of Public Works and Communications and the Ministry of Finance (Public Case of Debt) whereby the Syrian Petroleum Organization was granted a loan amounting to 100,000 pounds for the necessary expenses of studies for the construction of the Petroleum Refinery.

Contract with Techno-Export Concern at Prague

Subsequent to the advertisement of a universal bid on 16 March 1957, a contract was made between the Ministry of Public Works and Communications and the Techno-Export to the effect that the latter shall establish a petroleum factory near Homs.

In 16 March 1957, the Council of Ministers issued Arrete No. 345 approving this Contract. In accordance with this contract the Techno-Export undertook to establish a complete refinery for the production of the main petroleum derivatives, i.e. gasolene, kerosene, gas oil, fuel oil, asphalt and petroleum, having the capacity of million ton per year, which can be operated with ¾ capacity or increasing capacity by 20% at the cost of 5.42 million pounds. The yearly local costs amount to 12 million pounds, of which 8 million for constructions and the balance for transport and installation expenses of the Refinery in addition to 85,000 pounds being value of lands which the Government will offer.

The Government paid 10% of the total amount of the contract on signing the agreement and 15% by a letter of credit which shall be paid, during the period of construction. The balance of 75%, ten per cent of the contract will be paid on handing over the Refinery complete and ready during the latter half of 1957, and the outstanding balance will be paid on seven instalments, six of which at the rate of 10 per cent of the value of contract and the last one at the rate of 5%. Payment of instalments will start on 30 June 1960. 3% interest for these instalments shall be paid as from date of delivery of the Refinery.

The instalments and interests shall be paid in sterlings, transmissible. Should the Government delay in refunding value of instalment in due time, the Government shall be compelled to increase the rate of interest by 50% for the delayed payments and for the period of delay. At the meantime the Government undertook to pay the difference in the value of sterlings should these drop down in proportion to value of American Dollar.

This contract has exempted the Techno-Export from the payment of all Custom dues, financial and Municipal taxation for all apparatuses, machinery and equipment imported in addition to exemptions from other taxes relatives to industrial and commercial taxes, labour tames and income taxes imposed on the salaries of foreign workers and employees and wharf taxes. Exemptions will also include taxes on cement employed in the construction of the Refinery.

The Techno-Export accepted that the Syrian engineers and staff shall work in conjunction with its own engineers and staff. The period of this declaration is one year from date of putting the Refinery in constant operation.

The Techno-Export has also undertaken that its technical engineers will give advice as to maintenance of works.

Work started in constructing the Refinery at Homs in September 1957. It is expected that all works will be accomplished at the latter end of 1959.

In the beginning of 1959, a new unit will be added for the production of Butane and Propane the former being employed in domestic and the latter in industrial purposes. These two gases may be mixed up and the mixture employed in domestic purposes. The cost of installation of those apparatuses amount to 1.2 million pounds, of which about 300,000 are local expenses and 200,000 for buildings, the balance being cost of installation and preparation. The Tchecoslovakian Techno-Export will undertake installation of these units.

Financing the Refinery Project

In April 29, 1957 an agreement was signed between the Public case of Debt Province (Ministry of Finance) and the Syrian Petroleum Organization (Ministry of Public Works and Communications whereby the latter was granted a loan amounting to 30 million pounds, for the construction and exploitation of the Refinery. On 29 April 1957, the Council of Ministers issued an arrete approving this contract.

The 30 million pounds were put at the disposal of the Organization for settlement of its financial obligations stipulated in the contract signed by the Ministry of Public Works and Communications and Techno-Export of Prague and also for settlement of value of property and other expenses relating to construction and exploitation, provided that this sum will be subject to 3% interest of date of withdrawal. This sum plus interests shall be settled after undertaken exploitation, within a period not exceeding 15 years.

The Organization should assign the exploitation resultants, reserves and redemption funds, for the following purposes.

1. For settlement of loan interests due for payment.
2. For payment of instalments for purchasing
3. Settlement of instalments of the loan.

On condition that the income of the organization and its movable and immovable capitals will guarantee settlement of loan instalments and interests.

Until the establishment of the Syrian Petroleum Organization is completed and its accounts are organized, the Authority on exceptional budgetary expenses, at the Central Treasury will submit documents to the Public Debt Directorate for payment of the loan amounts.

On 15 July 1957, Decree No. 1885 was issued allowing the Public Debt (Ministry of Finance) to issue Public Debt bonds for the purpose of securing the funds necessary for the Syrian Petroleum Organization. These bonds were valid for three, six and nine months, one, two and three years. The rates of interest varied between 1.5% and 4%. The bonds and their interests benefitted by the privilege of being exempted on all taxes and charges.

Amendments

In 16 November 1957, Law No. 465 was issued relative to amendments to certain articles of Law 200 of 4 March 1956 in connection with the establishment of the Syrian Petroleum Organization.

According to Law 465, the Organization was permitted to construct the necessary tanks for storing petroleum products and to manage the oil tanks owned by the Organization or transferred thereto and that the ownership of the oil tanks established at Latakia or those under construction in the various Municipalities should likewise.

Moreover, the Organization shall take the place of the Government (Ministry of Interior and Ministry of Public Works and Communications) in respect of contracts relating thereto.

Until the Petroleum Organization is established the Economic Development Organization has been charged to undertake all its obligations and requirements and deal with all enacts contained in Law 200 issued on 4 March 1956.

On 15 June 1958, Republic Decree was promulgated regulating the audit of economic developments in the Syrian Region whereby the former funds of the Syrian Petroleum Organization were transferred from the Exceptional Budget attached to Central Treasury to the Several Audit of the Economic Development Organization.

On the 18 August 1958, a Decree Law No. 979 was issued regulating the internal temporary organization of the Syrian Petroleum Organization whereby the provisional services of the Organization shall be temporarily divided into three sections, technical, financial and administrative.

Economic Development Program 1958-1968

On 11 September 1958, the President of the United Arab Republic issued Decree Law 133 embodying the ten years Economic Development Program for the Syrian Region 1958-1968. The Refinery Project and its annexes were included in this Program. A sum of 70 million pounds was assigned for the construction of the Refinery and tanks, and the circulating capital. Works in this credit will be finished in the financial year 1965/66. The annual income of this project is estimated at 25 million pounds commencing from the financial year 1960-61 and the total income during the ten years 1958/59 - 1967/68 amounts to 200 million pounds.

The General Authority for Petroleum Affairs

On 28 September 1958, a Decree Law No. 167 was promulgated for the institution of a general Authority entitled the General Authority for Petroleum Affairs with independent personality, having its headquarters at Cairo. This Authority will be entrusted in general planning of the petroleum policy in the Egyptian and Syrian Regions with the view to secure the wealth development of petroleum and its perfect management in the course of its various stages.

The enforcement of this policy is undertaken by an executive administration in both the Egyptian and Syrian Regions.

The duties of the General Authority lie in the following:

1. Management of all petroleum establishments and outlining general planning for foundation of Petroleum establishments, throughout the Arab United Republic of all its various kinds.

2. Undertaking studies and researches relative to petroleum affairs and carrying out operations in search for petroleum substances and their production refinery, sale, transport and distribution, incorporation and supplementing public and private organizations dealing in matters of similar nature as its own. Making loans in the limits and conditions as approved by the President of the Republic.

Import of all needs of crude oil and its products. Exportation of surplus crudes and its derivatives, putting specifications of local and imported petroleum products and co-operating with the competent authorities in the fixing of prices of petroleum substances.

3. Giving decisions in advance on permits for search for petroleum and exploitation and also giving opinion on the passage of petroleum across the Republic lands and participating in negotiations for the preparation of these agreements or their amendments. Also in giving opinion relative to permits connected with pipelines and petroleum establishments within the Republic, in addition to supervision on the technical activities of petroleum companies in the stages of search and exploitation and directing same in such a manner as to warrant the welfare and maintenance of this petroleum wealth. Also the study, advice and control of activities of petroleum companies in the field of refining, storing and distribution to warrant execution of the petroleum policy and also the right to revise the accounts of the petroleum companies to safeguard the rights of the Republic for its dues.

The works of the Authority will in disposing of the affairs of the Authority and laying down policy for pursuance without being tied up with administrative and financial regulations to which other government administrations are subjected.

This is in addition to supervising the executive administrations of the Authority in the Egyptian and Syrian Regions.

The relationship of the Ministry of Industry will be confined to the submission of decisions of the Board of Management for approval in the course of seven days from date of its issue. If there are comments, they will be returned for submission to the Board of Management.

In this case, decisions will not be executed unless agreed to by two thirds of members. However, the lapse of seven days from date of submission of decisions to Ministers of Industry without any comments, shall be considered as approval thereto.

The Law stipulated that each executive Administration shall have an internal separate budget and the General Authority will have an independent budget comprising of the two budgets of the executive administrations, on the understanding that the budget of the General Authority shall be annexed to the state budget and would be laid down according to principles adopted in Commercial concerns.

It is possible to lay down for the Authority or for the Executive Administration a constructional budget for a period exceeding one year by arrete from the competent Administrative Authority, provided that the General Authority and the two executive administrations shall settle all taxes, fees, dues and obligations to the relative appropriate authorities.

The Authority will particularly benefit from the following financial exemptions:

Income tax on industrial and commercial profits. Lease of property, fiscal stamps in relationship with public Authorities.

The Law stipulated that this general Authority instituted by this Decree will take the place of the general Authority for Petroleum affairs who was instituted by Law No. 200 of 1956 in respect to its scope, rights and obligations, and the place of the various administrations, departments and other authorities which were dealing with matters coming under the circumscription of this Authority.

On 7.2.1959 Decree Law No. 44 was promulgated by which Art. 5 stipulated that the General Authority for petroleum affairs shall be entrusted with the study and execution of economic development projects relative to the Refinery at Homs in addition to exploration for petroleum.

Priority:

The Refinery was given the entire priority on all Government industrial projects for various factors. In addition to the characteristic nature of refinery industry which were already explained, the Syrian Region largely depend in generating energy on the petroleum derivatives, owing to its need to other resources of the energy and also to secure a sufficient local resource at all times and at reasonable prices during war and peace times, which is a matter of great importance.

The Government has adapted the execution of the Refinery project for various reasons, of which the hesitation of the competent sector in charge of such projects to undertake the construction of the Refinery owing to the enormous fixed and circulating capital required for projects of this nature, the strict supervision exercised by the numerous Government Authorities on production, transport and distribution of petroleum derivatives in view of the general and strategic importance for which the petroleum refining is distinguished.

This is in addition to the international monopolistic nature of refining industry in its various stages, lying in exploration, extraction, transport, refining and marketing.

During the coming years and until the operation of extracting petroleum in the Syrian Region in commercial quantities, the Refinery will depend on the crude oil of the Iraqi, owned by the Iraqi Oil Co. Ltd.

In order to secure suitable conditions for obtaining the crude oil required for the Refinery, negotiation must be made with the

Iraqi Oil. Co. Ltd. This Company as well as other companies depend on foreign countries which own the greater part of the company, which involve other Arab Oil productive countries which shares profits for operating within its territory, to support the Company on the grounds of mutual interests.

Furthermore marketing petroleum derivatives, in excess to local consumption in other markets of which some are under the Control of World Petroleum companies of monopolistic a nature, is of considerable difficulty which private individuals are unable to deal with.

Even the private sector is subjected to the state control. There is therefore nothing called private sector as the sector follows regulations issued by the State.

Irrespective of the protection offered by the State to the private sector in respect of restoring order and enforcement of laws and contracts, there are many ways by which the Public Sector can benefit from the support of the State in virtue of the Legislation which protect production from foreign competition.

The Refining industry is of great advantage for the development of the National Revenue whether it is supervised by the Government or by private individuals.

II. Production of the Refinery and Consumption of the Syrian Region of main petroleum derivatives

There are many factors which lead to the expansion of a Refinery, the main object of which is to secure the local consumption of the relative country from the various main petroleum derivatives.

One of these fundamental factors is to reconcile between production and consumption. The following is an indication of the extent of reconciliation between consumption and production in respect of Homs Petroleum Refinery.

It should be pointed out to the impossibility of creating a full reconciliation between the production of main petroleum derivatives and its consumption in any country, but it is possible to establish this reconciliation as its full extent.

The main factors governing production of the various main petroleum derivatives differ in nature from those dominating consumption of these derivatives.

Production

One of the basic factors dominating on the production of the various petroleum derivatives is the chemical composition of crude oil and the percentage of the main petroleum derivatives which could be obtained from this crude oil.

This percentage differs partially from one kind to the other according to the methods of refining.

In case of direct refining, the chemical composition of the crude oil is the main standing factor as in this case isolation of the various crude components is performed by means of heating. In the case, however, of indirect refining, there are two main factors, lying in the chemical composition of the crude oil and the refining apparatuses. In this case isolation of the various crude components and obtaining the different percentage of derivatives required, is being undertaken.

In view of the large demands on the heavy petroleum derivatives in the Syrian Region such as gas oil and fuel oil and which can be obtained in substantial quantities by means of direct refining, in addition to the lesser costs of establishment of this method which is estimated at an amount varying from 50 to 60 pounds per ton of power, as against cost of establishment varying from 80 to 100 pounds per ton of refinery provided with full methods for separation and other methods.

The Homs Refinery has been constructed on the basis of direct refining.

Site of the Refinery

The fundamental principle for deciding the importance of the site of a factory is the comparative suitability between the places of main product elements and main disposal markets.

The site of Homs Refinery was selected near Homs for various reasons, the most important of which:

1. Its nearness to Iraqi Oil Co. Ltd., pipelines starting from Kerkook in Iraqi across the Syrian Region to wharves of discharge in Tripoli and Banias for a diametre of 30-32 inches and a total capacity of 17.5 million ton. The second and third extend to Tripoli having the diameter of 12-16 inches and annual capacity amounting to 7.5 million ton.

Until petroleum has been extracted from the Syrian Region, the Refinery will rely on these pipelines for obtaining its supplies from crude oil necessary for operating the refinery.

It is expected that the pipeline containing the crude oil which will be extracted from the Syrian Region will pass from Karachok oilfields to Tartus wharf via Homs.

2. Its close range to water intakes, i.e. the Euphrates and Lake Katina as it is apparent that the processes of filtration and refining need abundant quantities of water for cooling and densifying the Napht evaporations released at high heating degrees. A greater quantity of this waste water could be employed in the azote fertilizer Factory proposed for construction in the neighbourhood of the Refinery.

3. The situation of the Refinery in close proximity to Homs will also be near to manpower resources. All these factors will lead to saving lot of costs which would be utilized in constructing residential quarters to staff and workers and other public utilities consisting of schools, hospitals, markets, government offices and places of prayers.

4. The existence of railroads networks and asphalted roads throughout the Syrian Region will facilitate its connection with all main consumption centres of the Refinery products. On the other hand the geographical and topographical situation of the zone will lead to the possibility of expanding the Refinery in the near future, in addition also to the possibility of establishing supplementary industrial centres near to the Refinery.

5. Homs lies in a zone in the centre of the Region in respect of main markets for disposing of the Refinery output. It is distant from Damascus by 150 kilometres and also the same distance from Aleppo. The consumption of the South Zone consisting of Damascus, Sweida and Dera' Governorates amounts to 39% of the total consumption of main petroleum products, i.e. gasoline, kerosene, gas oil and fuel oil. The Central Zone consisting of Homs, Homat and Latakia consume about 20% of the total whereas the Northern zone comprising Aleppo, Deir El Zor and Hasaka consume about 41%.

It is expected that these rates of consumption will be modified in the interest of the Central Zone which is intended to be the Central industrial zone in the near future.

Table No. 1 shows distribution of the main petroleum derivatives in the various Governorates and zones of the Syrian Region during 1957.

Capacity of the Refinery

There were two alternatives for the capacity of the Refinery. The first was to construct it with the capacity of 750,000 ton and to be expanded according to needs. The second was to make the capacity one million ton without the need for future expansions. The latter alternative was taken into effect, that is to say a capacity of million ton per year which amounts to 1,200,000 ton for the various reasons, of which the most important are:

1. The progressive increase in petroleum products which may exceed one million ton in 1962. This will be explained later.

2. The small difference between the primary costs of construction and working of a Refinery $\frac{3}{4}$ million and one million capacity.

3. The possibility of operating the Refinery at $\frac{3}{4}$ capacity.

Table I distribution of Petroleum derivatives among the various Governorates and zones of the Syrian Region in 1957.

Governorate	Extra gasolene 1000 l	Ordinary gasolene 1000 l	Kerosene 1000 l	Gas Oil ton	Fuel Oil ton
Aleppo	4075	26274	22609	114483	38832
Deir El Zor	271	5820	2201	15817	25
Hasaka	356.	15732	4719	20813	-
Total Northern Zone	4702	47826	29529	151113	38857
Hama	500	6946	5037	23889	259
Homs	1000	8989	6338	20128	17211
Latakia	1962	8648	8200	21899	2585
Total Central Zone	3462	24583	19575	65916	20055
Damascus	21705	23179	29679	72849	101631
Sweida	82	559	866	1279	-
Dera'	117	1068	2277	3838	-
Total Southern Zone	21904	97215	81926	294985	160543
General Total	30068	97215	81926	294985	160543

Means and Extent of Consumption

There are several factors which play their own part in limiting the consumption trends for the various petroleum derivatives, some of these factors are technical and others are economical.

The technical factors are connected with the evolution of producing the various petroleum derivatives and the evolution in the methods of employing the power general from these derivatives.

The economic factors are related to the extent of economic evolution and the extent of availability and employement of other sources of power

The technical factors

The capacity of the refining industry for the production of various petroleum derivatives at variable degrees of combustion has aided in the expansion of employment methods of the generated power. The production of gasolene of high octane has co-operated in the production of high pressure car motors.

The result of this trend is to diminish comparatively the demand on ordinary gasolene and increase demand on gasolene of high octane pressure. The technical evolution in manufacturing jet engines propellers has helped in the employment of jet planes and planes provided with propellers in commercial purposes, other than for military purposes as hereto before which led to comparative increase in ordinary kerosene for operating jet motors and kerosene which is similar to ordinary kerosene, in its main characteristics in operating the fixed motors.

In addition the consumption of jet planes of kerosene per kilometre flight is higher in gasolene.

The evolution in the industry of Diesel motors and its comparative low consumption of fuel has led expansion of manufacturing and employment of land and maritime transports, the utilization of agricultural tractors having motors operated by gas oil.

This has led to the increase of demands on gas oil and decreased demands on gasolene, kerosene and fuel oil. Endeavours are being made for manufacturing a motor which can be worked by various kinds of fuel such as kerosene, gas oil and fuel oil.

The prevalence of large Central Power Stations has also led to comparative increased demands on fuel oil whereas demands on gas oil, which is employed in small power stations, have diminished.

The spread of the large Central Power Stations for providing heat for warmth and hot water, have also the same former results.

The Economic F ctors

One of the economic factors which plays an important part in limiting consumption trends for the various petroleum derivatives, is to extent of the economic evolution and also the extent of employment of the other power resources.

The economic evolution has direct relationship with the volume and increase of the national revenue, and its distribution on the various economic sectors and methods of production in these sectors.

Increase in the National Revenue will also cause increase in the volume of Napht derivatives consumption.

The variable proportions in distributing revenue on the various sectors will also result in difference of consumption in the petroleum derivatives.

An increase in the share of the Agricultural Sector in National Revenue will also lead to increased gas oil consumption for the agricultural implements if the agricultural implements are prevalent.

As increase in the share of the industrial sector will result to the increase of fuel oil consumption should this increased share be due to creation of big industries. Also an increase in the share of the communication sector will lead to extra consumption of gas oil in case transports are being undertaken by Diesel Engines or by motor cars provided with Diesel motors.

The irrigation of reclamation of lands projects included in the ten-year program will call the increase of agricultural implements employing gas oil and decrease in the use of water pumping machinery worked by gas oil also. Morevoer the communications and railroads projects have also entailed the increase of the use of gas oil at the expense of gasolene, and the expanded electric generation from water falls will also diminish the number of small stations generating power for small factories.

In addition, the five-year project for industrial development will also result in the increase of fuel oil consumption.

As to the extent of the availability and utilization of other sources for Thermal and Operating Power in the Syrian Region, this is either non-existent or limited.

Coal of high and medium combustion is not found in woods. The supply of wood and fuel is limited. Production of woods is estimated at 50,000 tons per year.

On the other hand the hydraulic and natural energy for generating electric and thermal powers are also limited. Statistics indicate that the electric power generated in 1957 reached 232 million KW/hour, of which 14% were generated of hydraulic and natural powers and the remainder of petroleum derivatives.

In spite of the expected increase in generating electric energy from the basins of the Euphrates and El Asi in the course of the next ten years for the Economic Development Projects, the volume of this energy is not sufficient to cope with the requirements of the Region, estimated after ten years.

The Syrian Region will therefore depend, to a great extent, on the main petroleum products as principal source for generating electric, thermal and operating powers.

Form and extent of consumption

The quantities of consumption of the various petroleum derivatives in the Syrian Region are in progressive increase.

A full idea of this increase can be obtained of the table showing importation of those products (table III).

It will be observed in this table that the average annual increase for the consumption of all those petroleum derivatives during 1952-58 differ from the average annual increase of all these derivatives. The average rate for the annual increase in consumption of all these derivatives during the six years in question amounts to 15% whilst it was 3.67% for gasolene, gas 7.17%, gas oil 10.83% and fuel oil 12.67%.

As already explained the increase and difference has direct relation by the volume and increase in the National Revenue and its distribution on the various economic sectors and methods of production, in addition to extent and employment of the other resources for generating the electric, thermal and operating powers.

TABLE III IMPORTATION OF MAIN PETROLEUM PRODUCTS SYRIAN REGION 1952-58

	GAS		GASOLENE		GAS OIL		FUEL OIL		TOTAL	
Year	Ton	Increase %	Ton	Increase %	Ton	Increase %	Ton	Increase %	Ton	Increase %
1952	47753	100	79540	100	118067	100	100233	100	345593	100
1953	50818	106	83028	104	141234	120	117949	118	393029	113
1954	56913	119	92593	116	195084	165	133098	133	477688	138
1955	56370	118	83256	105	220186	187	139897	139	499709	145
1956	65207	137	98865	123	275810	234	160670	160	600552	174
1957	67240	141	92000	155	294985	250	160543	160	614768	175
1958	68500	143	98250	122	303250	265	176000	175	650000	190

Gas Average yearly increase 7.17%
Gasolene " " " 3.67%
Gas oil " " " 10.83%
Fuel Oil " " " 12.67%

N/ B.

Future Form and Extent of Consumption

Depending on the average yearly increase during 1952-58 in the consumption of main petroleum products and on the yearly average increase of the National Revenue and its distribution on the various economic sectors during the course of the ten years 1959-1969, it will be possible to make estimates of the consumption of the Syrian Region of the various main petroelum products during 1959-1969.

Table IV indicates these estimates, and table V indicates quantities of the main petroleum derivatives expected to be produced by the Refinery at the capacity of 700,000 tons per year and its comparison with estimates of consumption for 1960.

In referring to these two tables, we must mention the following principal factors i.e. that the estimates of consumption for the next ten years have been based on the natural expansion in the petroleum products which are expected to be increased due to expansion in the National Revenue resulting from its natural increase and also due to the ten years projects for economic developments and the Five-Year Project of industrial development and on the basis of not being increased on unnatural form.

The employment of fuel which takes the place of petroleum derivatives, in addition to the Refinery being dependent in its operation on the Iraqi crude oil. It will be seen from Table V the difference in the production and in consumption of the various main petroleum derivatives. This difference can be diminished by various ways, the most important of which: the surplus of motors consuming these derivatives should enjoy taxation privilege, in addition, the new industries should be directed to the employment of generating powers which consume the derivatives of surplus production notably fuel oil and also encouraging motor powers to employ crude oil after being treated by simple apparatus of little cost.

In spite of this there will be surplus and deficits to their products. The surplus over consumption shall be marketed or exchanged by products in deficits of consumption. This question shall be treated forthwith.

TABLE IV

Estimation of Quantities of Main Petroelum Derivatives in the Syrian Region (1959 - 1969)

Quantities in 1000 ton

Year	Gasolene	Gas	Fuel Oil	Total
1959	102	77	210	749
1960	106	84	231	805
1961	110	93	285	897
1962	114	102	310	960
1963	119	112	341	1035
1964	121	123	375	1124
1965	124	135	413	1210
1966	127	148	454	1303
1967	130	163	500	1402
1968	134	179	550	1509
1969	138	196	605	

TABLE V

Estimation of Consumption of main petroleum products and output of Home Refinery

Quantities in 1000 ton

oduct	Volume (1) of consumption	Percentage of consumption gasolene, gas oil, gas & fuel oil	Output of Refinery 700,000 ton cap.	Percentage to production	Surplus to Consumption	Deficits of Consumption
tagas	2.40	-	3.50	50	1.10	-
asoleno (ordinary & extra)	106.00	13.11	122.00	17.50	16.00	-
s	84.00	10.43	105.00	15.50	21.00	-
s oil	384.00	40.77	150.00	21.50	-	234.00
el oil	231.00	35.69	270.00	38.50	39.50	-
phalt	6.00	-	7.00	1.00	1.00	-
stos & el of finery	-	-	42.00	6.00	-	-
Total	813.40	100.00	700.00	100.00	78.60	234.00

III. Sources of Crude Oil required for the Refinery

The Homs Refinery will be ready to start production of the various main petroleum derivatives by the latter half of the year 1959, which will cope with the requirements of the Region. The quantities of crude oil necessary for operating the Refinery are estimated at 700,000 tons in 1960 and 1.50 million tons in 1969.

There are two sources for securing the Refinery needs of crude oil. The first is an internal expected source and the other is an external source.

The expected internal source for crude oil

There are strong proofs pointing to the existence of abundant quantities of crude oil in underground layers in various localities in the Syrian Region, especially to the North East. Several wells were explored in 1956 near Karachok in the Jezira area. Up till now no commercial quantities have yet been extracted. This locality is 500 kilometers distant from the Refinery. Until commercial quantities have been extracted and transported to the Refinery, the Refinery will depend in the coming years on the external source for its crude oil.

The preliminary estimates for the cost of extracting crude oil from Karachok wells are within the limits of 2,000,000 tons and its transport through pipelines passing near Homs to the Mediterranean coast, amount to 135 million pounds.

The Five-Year Program for industrial development in the Syrian Region, which was published in 1958, included the execution of this exploitation.

The External source for crude oil

At the present moment, there are two existing sources for crude oil. The first is the Iraqi crude oil which is owned by the Iraq Petrolum Co. which passes across the Syrian Region in pipelines near Homs. The networks of the pipelines start from KARKOOK to Tripoli and Banias. The second source is the Saudi crude oil owned by the Saudi American Oil Company which passes across the Syrian Region in pipelines near Konaytra, to El Zahrani near Seda. Owing to the near distance of the pipelines of the Iraq Petrolum Co. to the Syrian Region and the remote distance of the Saudi pipelines by about 300 kilometres, it is evident that the Refinery will depend during the coming years on the Iraqi crude oil. On the other hand the Refinery apparatuses were designed on the Iraq Petrolum Co. and its chemical components.

All the crude oil conventions which were made between the consecutive Government in the Syrian Region and the Foreign Petroleum companies who were desirous to exploit crude oil, or transport it across the Syrian lands or construct Refineries with the Region, contained stipulations compelling these companies to construct Refineries and selling the crude oil and its derivatives for meeting the requirements of the region.

The following is a brief record of these stipulations.

The Petroleum Concession Co., (Syria and Lebanon) Ltd.

This company received a concession from the Syrian Government for the exploration, exploitation and transport of crude oil within the Syrian Region. The concession between this company and the Syrian Government dated 26 February 1938 approved by Decree No. 47 - 1940 provided that the company shall undertake to construct a Refinery if the crude extracted is in commercial quantities in order to supply the Region with its requirements and that the company would sell the crude oil ready for use in the Refinery at prices below the lowest prices in the United States of America.

Furthermore the company undertook to present to the Government, free of charge, for local consumption 20,000 tons yearly of crude oil in addition to a quantity of 2,000,000 litres, of gasolene [illegible] of charge and 250,000 litres of gas. On 16.5.1940 the company took the name of "Syria Petrolum Co."

The company has undertaken limited operations of exploration and on 10 April 1951, the company notified the Government that they have given up the concession and in November 1955, an agreement was made between the Government and the company whereby terms were laid down to the effect that the company will give up its rights in existing installations amounting to 1.75 million pounds in addition to 300,000 pounds as settlement for meeting the Government in giving up its former rights.

The Middle East Pipelines Ltd.

In 1941, this company, owned by an Anglo Iranian Petroleum Co. Ltd. and certain American Companies, was able to obtain a concession from the Syrian Government for extending its pipelines passing across the Syrian Region for transport of crude oil and its derivatives.

The company was intending to construct a pipeline 32 inches diameter having the capacity of 20 million tons, starting from Abedan and terminating near Tartus.

The concession made between the Government and the company on 7 June 1949 which was approved by Decree No. 140 of June 20, 1949, contained a stipulation that the company should present to the Government for sale a quantity of crude oil not exceeding 200,000 tons yearly, on the condition that the price shall be equal to the lowest price of crude oil CIF East Mediterranean Ports and payment in Sterling on delivery. The Government will take on its behalf to use the full quantity of the crude oil within the Region and will not allow its transport on its derivatives. The Government has the right to buy this crude oil after the expiration of six months from date at which the company undertakes passage of crude oil across Syrian lands.

In view of disputes between the Anglo Iranian Co. Ltd. and the Iraqi Government and the refusal of the Iraqi Government to grant a concession to the company in question for allowing the passage of crude oil across its territory. The disputes were due to the Iraqi Government asking the company to increase the production of crude oil in Iraq.

Towards these disputes the company gave up the idea of constructing the pipeline of Abedan Tartus.

The Maritime Refineries Co. Ltd.

In 1949 this company which is owned by an Anglo Iranian Petroleum Company, and certain American Cos., has obtained concession from the Syrian Government to construct and exploit petroleum refineries in Syria and importing crude and exporting its derivatives.

On 6 June 1949, a convention was made out between the company and the Government which was approved by Decree No. 141 of 20 June 1949 by which the company undertook to refine a quantity of petroleum sufficient for the local consumption of Syria, provided that the Government will take on its behalf not to allow export any quantity of these products delivered by the company.

The Government has also undertaken to pay for the cost of refinery, a sum equal to the price of crude oil products and the price of crude oil in circulation, less 10%.

The company was intending to refine a part of the Italian petroleum which was intended to pass through the pipelines of the Middle East pipelines Co., owing to the failure of the latter company in undertaking its project, the company has consequently given up the idea of constructing refineries in Syria.

Pipelines across Arab Countries (Tapeline).

This company had obtained concession from the Syrian Government to the construction of one or more pipelines for transport crude oil from Saudi Arabia across Syria to the Mediterranean Sea Coast. Letter dated September 1947 and Annex to convention made between the Syrian Government and the company dated the 15 September 1947 and approved by Legislative Decree No. 47 of 16 September 1947 has allowed the Syrian Government to purchase 200,000 tons of crude oil annually throughout the duration of the convention, provided that this crude oil is utilized in local consumption at prices corresponding those prevailing in the Eastern Ports of the Mediterranean and payment should be settled in dollars or English Sterlings (free price).

The company laid down the pipelines near the Arab Gulf in Saudi Arabia penetrating Jordan, Syria and Lebanon to Zohrani near Seda. The length of this pipeline is 1600 km. of which 127 kilos are across Syria. The diameter of the pipes is 32 inches with an annual flow of 17.5 million tons.

This pipeline started operation in 1951. The capacity of this pipeline was recently expanded by 25% due to establishment of four supplementary pumping units alongside the pipelines. The site of this pipeline across the Syrian Region is 300 kilometers distant from the site of the Refinery at Homs.

On 21 May 1952, an agreement was made between the Syrian Government and the Pipeline Co. across the Arab Countries stipulating conditions to the effect that the company shall sell to the Syrian Government quantities of crude oil sufficient for its local consumption.

According to this agreement the company undertook to sell to the Syrian Government, instead of the 200,000 ton aforesaid, a comparative part of the internal needs of crude oil sufficient for securing the requirements of Syria from gasolene, kerosene, gas oil and fuel oil. This comparative part of the internal needs is equal to the quantities of crude oil passing through the pipelines of the company to the internal needs is equal to the quantities of crude oil passing through the pipelines of the company to the total quantities of the crude oil which the various companies transport across the Syrian lands, at prices quoted for crude oil by Eastern Mediterranean Ports, on condition that the price of the crude oil shall be paid in dollars or in English Sterlings liable for transmission.

The crude oil is to be delivered at the mouth of the company in El Zahroni or at any point lying on the pipelines in Syria.

This agreement was approved by Arrete dated 21 March 1952 No. 133/m but up till now the Government did not exercise its rights in purchasing the crude oil and it is not expected that the Government will use its right. Therefore, the refinery will depend on the Iraq Petrolum Co. in obtaining the Refinery supply of crude oil.

The Iraq Petrolum Co. I.P.C.

On 25 March 1931 this company had obtained concession from the Syrian Government for extending its pipeline networks across the Syrian lands for the transport of crude oil and its derivatives from the oil fields at Iraq to the Eastern ports on the Mediterranean sea.

The company laid down three pipelines starting from the oil fields at Kerkook and Mowsel and terminating at Tartus and Banias. The first, 12 inches in diam., the second 16 inches in diam., terminating at Tartus, with an annual capacity of about 7.5 million tons. The third 30-32 inches in diameter, ending at Banias having an annual capacity of 17.5 million tons. The first pipeline started operation in 1934, the second in 1959 and the third in 1952. Each pipeline is about 800 kilometres long.

Recently the company started to augment the annual capacity of these lines reaching 30,000 tons in 1959 and 35,000 tons in 1960.

The agreement of 1931 did not contain any stipulation for compelling the company to sell any quantity of crude oil or to guarantee the internal consumption of Syria for main petroleum derivatives.

The Syrian Government since long was intending to construct a refinery and in October 1949, the Government gave the Iraq Petrolum co. Ltd. a promise that in case the Government shall not construct a refinery in Syria in the course of five years from the date of this promise, the Government will be prepared to enter into negotiations with the company in this respect.

In 1952, the company notified the Government that the former is ready to enter into negotiation in this concern before the lapse of the five years. The company handed to the Government a list of demands which must be fulfilled before the company constructs the refinery. These are summarized in the following:

1. The Refinery must be profitable,
2. To be an independent unit of management and the sole ownership of the company,
3. The Governorate must declare that the Refinery and its markets shall not be nationalized,
4. Prices of products shall be agreed upon beforehand,
5. The Company shall have the right to transfer the management of the Refinery to another company,
6. A satisfactory agreement shall be made for the method of exchanging the prices of surplus and exported products,
7. The output of the Refinery shall be sufficient for the local consumption of petroleum derivatives and that expansion of this capacity shall be undertaken after the lapse of ten years,
8. No restriction shall be made for conversion of currency,
9. The site of the Refinery shall be in Banias instead of at Homs.

At the same time, the company notified the International Construction and Re-habilitation Bank that it prefers if the Bank would finance the project of the Refinery. Negotiations stumbled as a result of not arriving at an arrangement in respect of prices of products and the relationship of these negotiations with the revenue collected by the Government for the passage of the pipelines across its lands.

Complementary Agreement

On the beginning of 1952, the Syrian Government entered in negotiations with the Company to increase the Government share for the passage of pipelines across its lands and modifying certain conditions of 1931 agreement. After a series of negotiations undertaken by the Consecutive Government, the Government succeeded in making three agreements on 11 November 1955 with the Company. This agreement was approved by Law No. 128 of 6 December 1955.

Among these three arrangements, the complementary agreement included 11 articles stipulating that the Iraq Petrolum Co. should supply a partial quantity of the crude oil for coping with the local consumption of the Syrian Government of petroleum products. Article 11 indicated the conditions connected with the supply of this partial quantity.

In view of the fact that the Refinery will depend during the coming years on the Iraqi crude oil in its operation, this article will be referred to later.

The Quantity

The Company undertook to sell to the Government a comparative partial quantity to be refined for local consumption. The Refinery fuel and wastes amounting to 7% of the Refinery requirements come under the heading of local consumption, but the local consumption does not include fuel supplied to ships, other than Syrian, gasolene for planes other than Syrian planes.

If this Government will not receive from the Company its share per year of crude oil, the Government will lose the right in its purchase and receiving it in future and "the Comparative part" of the local requirements of crude oil is equal to the quantity of crude oil passing through the pipelines to the total quantities of crude oil transported by the various Petroleum companies across the Syrian lands.

In 1957, the quantities of crude oil passing through the Syrian Region amounted to 37 million tons, of which 21 million tons belonged to the Iraq Petrolum Co. and 16 million tons, of which 21 million tons belonged Pipeline Co. across Arab countries.

In virtue of this Article, the Iraq Petrolum Co. will be obliged to sell every year to the Syrian Government a quantity equal to 57% of the total annual requirements necessary for operating the Refinery for the production of the main petroleum derivatives for the internal consumption. The balance of crude oil amounting to 43% is not subject to being purchased by the Government. The Government will undertake to carry out all means necessary for receiving the quantities of petroleum sold by the company to the Government.

The company shall not bear any responsibility for the surplus quantities purchased from the Refinery which would be accumulated from the production of crude oil. The crude oil which is purchased should be totally refined and utilized in Syria. The Government should undertake to present any transports of this crude oil or its derivatives, except the surplus quantities above quoted.

The Government should also notify the company, before the start of every year, of the expected approximately quantities required for the following year.

Prices

The price of the crude oil sold to the quantity within the limits of an approximate quantity beyond 600,000 tons yearly, will be the same lowest price announced in Banias, less 9 shillings for crude oil supplied to the Refinery near to Banias, or 12 shillings for crude oil supplied to the Refinery near to Homs. The price of crude oil exceeding the 600,000 tons will be the same price quoted above less one shilling and a penny from crude oil supplied for the Refinery near to Banias or a shilling and one penny for crude oil supplied out Refinery near to Homs. The price announced is the price offered for crude oil in full shipments "FOB" i.e., free on board ship and tankers in Bankers. The price of crude oil should be paid in London in Sterlings at the end of the month on which the crude oil was delivered, by thirty days.

The Company shall be exempted of all fees and taxes for the crude oil sold to the Government. This arrangement did not embody any article or stipulation whereby the quantities of crude oil sold to the Government are subject to passage, bunkering and quay dues.

The price quoted for crude oil at Banias when the Agreement was signed was $2.59 for the barrel or equal to 7.7.20 Sterlings per ton (1016 kilograms).

The price per ton of crude oil which will be supplied near Homs in the limits of 600,000 tons will be the price quoted in Banias, less 8.53% and at Banias the price announced, less 6.40%.

In january 1958, the price of crude oil announced at Banias was $2.49 for the barrel or 6.15.9 Sterlings per ton, i.e., the price of delivery at Homs within the limits of 600,000 tons, is the price announced in Banias, minus 8.88%, and at Banias, the price announced, minus 6.66%.

The price per ton, exceeding the 600,000 tons yearly, at Homs, is the price announced at Banias, less 10% and at Banias, the prices announced less 7.17%.

If we deduct from the price announced at Banias, the fees of bunkering, quay and charges for pumping on board ship which amounts to one shilling and half per ton. The price per ton of crude oil sold to the Government delivered at Homs, will be the price announced at Banias, less 7.74% and at Banias, the price announced minus 5.33%.

From the above, it will be observed that the Iraq Petrolum Co. is not bound to sell to the Government all quantities of main crude oil for local consumption, but, at the present time, negotiations are taking place with the Company in order to ensure supply of all quantities to the Refinery from Iraqi crude oil.

IV. Construction and Production Costs of Homs Refinery and its value

A study and comparison between construction and production costs and the profits gained are fundamental factors for deciding whether the project is suitable for economic investments.

The costs of the Refinery could be obtained from the contract made between the Syrian Government and the Techno-Export-Prague dated 16 March 1957.

The construction and production costs and profits to be gained, can be obtained by making approximate estimates.

Cost of Construction

The cost for construction has been mentioned in Article I of this volume on detailing the main conditions of the contract quoted above. The capital funds required for this Refinery are estimated at about 85.6 million pounds. Table VI gives an indication.

Cost of Production

The cost of Production for this Refinery cannot be accurately fixed before work is being regularly undertaken in the Refinery. However, the estimation of costs will enable us to arrive at approximate estimate of this cost.

The cost is usually divided into two parts, i.e. the fixed cost which is not being affected by the volume of production and which chiefly lies in the depreciation of apparatuses machinery and buildings and the interest of the fixed capital, and the other is the movable cost which has direct connection with the volume of production, the most important of which is the cost of crude oil, chemicals, salaries and wages and the interest of the circulating capital.

The annual cost of production, including fixed and movable costs, at one million tons capacity, is estimated at 76 million pounds. Table VII.

Table VI estimates for fixed and circulating capitals for Homs Refinery.

Fixed Capital	Million ton capacity per year
Lands and Buildings	8,285,000
Apparatuses and Machinery	47,315,000
	55,600,000
Curculating Capital	30,000,000
Total	85,600,000

Table VII estimates the Annual Cost of Production for Homs Refinery (1,000,000 ton capacity)

Purpose	Syrian Pounds
Depreciation of buildings, over 30 years	276,167
Depreciation of apparatuses and machinery over 10 years	4,731,600
Interests of fixed and circulating capitals 5%	4,280,000
Crude oil (million ton per year) including 6% fuel and wastes (from Iraq petrolum Co.) at reduced prices	61,500,000
Chemicals and other equipment	2,250,000
Salaries and Wages	1,750.000
Insurance, maintenance and unforeseen expenses	1,212,333
Total	76,000,000

Value of Production

It is possible to calculate the amount of the Refinery output in the basis of prices of petroleum products delivered at Middle East Refineries or on the basis of "loco" Syrian Ports or priced CIF, plus transport expenses to Refinery at Homs and including also Custom Dues and other Import charges. But in view of the existing procedure relative to the exploitation of Sidon Refinery on Commercial conditions, it was intended to consider the prices of its main products delivered at Refinery as basis for estimating the value of production in Homs Refinery. Table VIII indicates the value of production on the basis of operating the Refinery at the capacity of one million tons per year (Prices as per prices of products delivered at Sidon Refinery on February 1959. The prices of products delivered at Tripoli Refinery were not taken as basis as the Refinery is being run under special circumstances.

TABLE VIII

Value of Production

(Homs Refinery (1,000,000 tons capacity per year)

Products	Percent	Quantity in tons	Value Pounds
Gasolene	17,50	175,000	23,310,000
Kerosene	15,00	150,000	19,790,000
Gas oil	21,50	215,000	26,703,000
Fuel oil	38,50	385,000	22,716,000
Asphalt	1,00	10,000	1,000,000
Butagas	0,50	5,000	1,400,000
Total	94,00	940,000	94,920,540
Wates and fuel for Refinery	6,00	60,000	
	100,00	1,000,000	

If we take into consideration the benefit which will be gained from the site of the Refinery, lying amidst markets for disposal of petroleum products and add to the value of the Refinery products being 95,000,000 pounds the economy resulting from the transport of products which would have imported via Latakia, Banias, Tripoli and Sidon, costing 10 pounds per ton and a total of 9.4 million pounds, it will be observed that the total value of the Refinery Products will reach 104 million pounds per year.

If the value of products is compared with the cost of production, it will be found that the net profits obtained = (104 - 76 = 28). An equation of value and cost of production will reveal = 104:76 = 1.36 i.e. a pound expended in this project will give an interest of 1.36 pounds.

The result of the Refinery Investment will be assigned for settlement of instalments and interests of the loan by the Ministry of Treasury - The Public Case of Debt - which undertook financing the project of the Refinery and also for the settlement of instalments and interests due to Techno-Export Concern-Prague for the construction of the Refinery.

Prices of Products delivered at Homs Refinery

If it is intended to exploit Homs Refinery on commercial conditions so that the prices will resemble those of the products delivered at Sidon Refinery, plus the economy resulting from the transport of imported products, in this case the prices of Sidon products, the transport charges will be taken as basis. To this should be added the Custom dues imposed on these products. The amount of these dues on the basis that the capacity of the Refinery is one million ton and the consumption of the whole production within the Syrian Region, is estimated at 57 million pounds.

These taxes can be imposed on the form of financial taxes on production (excise taxes).

In this case, the Government could get rid of any losses to the budget revenue causes by reductions in custom dues imposed on imports of petroleum products.

Effects due to execution of the Refinery Project

The economic, social and political effects which will be caused from the execution of the Refinery project will be reviewed later in giving an outline of all projects inserted in the ten years economic developments for the Syrian Region.

Generally speaking, the effects of the Refinery Project on the National Revenue can be classified into two stages, i.e. during period of construction and during period of production.

During the first stage of construction, the direct effect is the increase in the local expenses by about 12 million pounds. The secondary indirect effects during the course of construction relate to those reflected by the expenditure of 12 million pounds in activating and increasing production of other various economic sectors.

The increase in the National Revenue caused by the direct and indirect effects may be double the first sum of the 12 million pounds. In the same procedure, the general employment may be double the one of the first.

In respect of the effects of the execution of the project on the National Revenue during the period of production, this had a direct relation with the expansion of the producing power in the Syrian Region.

Owing to the importation of crude oil from Iraq for refining, the direct increase in the National Revenue will be restricted to the value of refining which amounts to 33 million pounds per year, which is formed from the difference of the total value of the Refinery production estimated at about 104 million pounds and the total elements of expenditure of annual production imported from abroad amounting to 71 million pounds (see table VII).

These elements are: cost of depreciation of apparatuses and machinery. The amount of interest paid to Techno-Export-Prague concern-Prague for the value of apparatuses and machinery, the price of crude oil imported from Iraq paid in Sterling transmissible to Iraq Petrolum Co., price of chemicals and other equipment and [illegible] a part of miscellaneous expenses (104 - 71 = 33 million pounds).

As to the indirect increase in the National Revenue in the course of the period of production, this has relation with the effects following the direct increase in activating and increasing various products of other sectors. This is in addition to expansion in the National Revenue due to devising other complementary petroleum industries.

The increase in the National Revenue due to direct and indirect increases during the course of production is double the amount of direct increase amounting to 33 million pounds.

V. Other Crude Oil Projects

The Five-Year Program for Industrial Development in the Syrian Region which was announced in November 1959 included the essential execution of several projects for the exploitation of crude oil wealth hidden in the undergrounds of the Syrian Region and for realizing maximum benefits of this wealth and also for facilitating processes of exploration, exploitation, transport, storage and distribution.

The projects embodied in this Program are as follows:

1. Researches and Exploration

Expansion of researches and exploration operations. These will cost 45 million pounds of which one million is hard currency. These operations require employment of 700 workers.

2. Exploitation

Various crude oil wells have already been discovered in Karachok fields. The reserve of this field of crude oil is about 150 million tons.

It is estimated that 40 million tons of crude oil could be exploited of this field 40 million tons in twenty years, with an annual rate of 2 million tons.

The exploitation of this field requires the establishment of storage stations, tanks for storing, apparatuses for separation of gases and water from crude oil and pipes for collection and distribution within the field. The cost of these works cost about 36 million pounds, half of which in hard currency.

The value of production amounts to 63 million pounds per year.

The number of workmen who will be required in this exploitation is about 1200 workers.

3. Refinery

A small Refinery is proposed to be constructed at Kamishli having an annual capacity of 200,000 tons.

The production of this Refinery will cope with a part of the requirement of the agricultural zone for main petroleum derivatives. The number of labourers required for operating this refinery amounts to 200.

4. Transport of Crude Oil

Laying down some pipelines for transporting crude oil and petroleum derivatives.

a. A pipeline for transport of crude oil from Karachok to Tartus port via Homs for feeding the refinery. The length of this line is 600 kilometres, 13 inches in diameter and an annual capacity of 2 million tons.

The cost of laying down this line in addition to pumping stations, storage and distribution reservoirs, is estimated at about

99 million pounds, most of which is in local currency, if the pipes could be manufactured in the Iron and Steel Factory in the South Region. The number of workmen required for exploiting this line amounts to 200.

b. Laying down two pipelines, one starts from Homs to Aleppo passing across Hama, and the other starts from Homs to Damascus for facilitating transport of petroleum derivatives to main consumption centres in the Northern and Southern Zones. The diametre of this line is 6 inches and the cost of laying down of these two lines together with the relative establishments, i.e. pumping station, etc., is approximately 18.9 million pounds.

It is expected to employ at 200 workers after the execution of this construction.

5. Storage of Petroleum

Expansion in establishing tanks and reservoirs for petroleum derivatives in the main consumption centres at Damascus, Aleppo, Homs, Hama, Latakia, Deir El-Zor and El Hasaka. Work has already started, some are now ready and others are still under construction. The total cost is about 9 million pounds, most of which is in foreign currency. About 500 workers will be required for operating these storage apparatuses.

Table IX indicates approximate estimations of these Petroleum projects. Until the execution of these projects, the Syrian Region is in a position to cope with the crude oil required for the production of main petroleum derivatives for the local consumption, a surplus of about 500,000 tons may be left of crude oil per year, the value of which is about 25 million pounds.

Table IX

Approximate estimates of crude oil projects in the Syrian Region

Project	Cost of Works in million pounds
1. Researches and Exploration	45.00
2. Exploitation of Karachok oil field	36.00
3. El Kamishli Refinery	9.00
4. Transport of crude oil by pipelines	
Karachok - Tartus line	99.00
Homs-Aleppo, Homs-Damascus	18.90
5. Tanks and Reservoirs for storing products	9.00
Reserves	49.26
Total in Million Pounds	266.16

Tanks of flammable substances

The number of flammable substances which are under construction in the Syrian Region is 48, with the exception of those existing in Homs Refinery. They are distributed as follows:

1. Tanks of Damascus zone (Adra) 13 in number.

These are already constructed but not yet handed over. Their capacity is as follows:

4 tanks,	2680 m^3	each	
9 "	2090 "	"	
13	Total		

2. Tanks of Aleppo zone (El Ansaoi) 7 in number

6 of which have been constructed and the 7th is about to be finished. All of them are not yet hand over.

The capacity of each tank is as follows:

2 tanks,	2680 m^3	each
5 "	2090 "	"
7	Total	

3. Tanks of the Euphrates zone (Deir El Zor). These are 5 in number. Their basis have been laid down but frames not yet.

4. Tanks for El Jezira Zone (Hasaka) 7 in number. The iron sheeting of those tanks have been delivered but the basis are not yet laid down as the contract is not yet signed.

5. Tanks for the Latakia Zone (El Raml). These are 16 in number. All of them have been constructed with the exception of supplementary works, i.e. pumps, motors, fire extinguishers, painting, etc.

The construction of tanks in Damascus and Aleppo Zones can be considered as completed in as far as installation. The rate of works in those tanks is 90% but this rate will become 35% if we consider all works which should be accomplished for the tanks of these two zones in respect of pipes, apparatus, motors and other constructional works, to enable those resume its storing and discharges operations.

As regards Deir El Zor Zone. The rate of works which have been carried out is only 25% and in Hasaka 2% which only lie in supplying iron sheets for the zone in question.

The total expenditures up to 31.12.1958 amount to 4,056,905 pounds.

b. Azote Fertilizer Factory

General Principles

Projects which provide feeding elements essential for the growth of plants are of great value for establishing agriculture on sound productive basis.

There is a firm relationship between agricultural production and the fertility of the soil and its contents of food elements.

Azote, phosphate and potassium constitute fundamental elements for feeding plants. They are consumed in greater comparative quantities than other elements such as calcium, iron, magnesium, borum, zinc and copper which exist in abundance in the soil.

The soil in Syria is not poor for potassium, but it is in need of the two elements of azote and phosphates. Azote is one of the feeding elements and its component are more effected by atmospheric variations. The dry and hot weather are factors for its decrease in the soil, a matter which calls for the employment of organic and mineral azoted fertilizers in place of the lacking elements of the soil.

This principle specially applies to irrigated lands thickly cultivated as it consume quantities of azote more than dry farming lands, i.e. (lands watered by rain).

The decrease of phosphate in Syrian soil is due to the high rate of calcium in the soil, which leads to reaction between these two elements resulting to the conversion of phosphates to an unsolvable substance in water and consequently becoming impossible to be absorbed by the roots of plants.

For this reason, it is essential to add large comparative quantities of phosphates, so that the soil would contain any remaining quantity which the roots could absorb before it reacts with calcium.

The agricultural evolution in Syria was augmented by the marked increase in the utilization of the various kinds of mineral fertilizers. The quantities imported of these fertilizers amounted to 14,000 tons whilst the quantities imported in 1952 were only 3145 tons.

If we take into consideration the expected expansion in lands which will become suitable for cultivation due to irrigation and reclamation of lands projects, increase in agricultural understanding for estimating the value of fertilizers in watered lands, it is apparent that the consumption of azote fertilizers will immensely increase.

The area which will become suitable for irrigated cultivations will expand during next few years to reach 1,000,000 hectares, existing in the following zones:

Euphrates zone	800,000
Khabour zone	150,000
El Orontes and Chab zone	110,000
El Sinn zone	5,000
El Rouj zone	5,000
Mzerib zone	6,000
Berdir el Awaj zone	30,000
El Beleekh zone	5,000
Efereen	5,000
Total	1,116,000 Hectares

If we consider that the general area of agricultural irrigated lands in 1957 was 583,000 hectares (mostly irrigated by pumps), it will be observed that the various irrigation projects will double the area of irrigated lands and enables most of the existing lands irrigated by means of pumping to be irrigated by free flow. This will result to progressive increase in the consumption of azote fertilizers which may reach 250-300 tons per year in irrigated lands.

In view of these considerations, the establishment of an azote fertilizer factory is of vital importance for agricultural developments.

Site of Factory

The factors for deciding the site of a factory of this nature and the volume of output depend largely on reconciling between the technical requisites for its establishment and the market for disposing of its products.

As the project of dehydrating and reclaiming the lands at El Ghab, which is the first important project under execution, it is natural that attention will be paid for exploiting its virgin lands on latest modern lines, of which the employment of fertilizers is one, for preserving the fertility of the soil.

It was therefore advisable to construct a factory for azote fertilizers in the nearest site to this project fulfilling the main technical conditions.

On this basis it was decided to construct this factory in the neighbourhood of Homs for the following collective reasons:

1. It is near to the Petroleum Factory which will save transport of fuel. On the other hand the production of ammonia andits azote bye-products is considered as petro-chemical industry derived from purifying and refining petroleum.

2. The existence of El Oronte River near to the factory will ensure its requirements of water supply for cooling and chemical processes in all stages of production.

3. Its existence within a first class agricultural zone and its neighbourhood to El Ghab Project.

4. Abundant manpower.

5. In close range to a large town, which will facilitate finding habitations for workers and homes for sanitation.

6. The prevalence of communication networks for transport of fertilizers to the various consumption centres.

Quantity of Production

If we consider that the area which could be exploited for agriculture in the Ghab Valley is about 740,000 dunums and if we assume on the basis of the available studies that an dunums requires an average of about 10 kilograms of the azote element, we will find that the Ghab Plain will need 7500 tons of this element if the whole area is exploited.

In the meantime the irrigated areas surrounding Homs and Hama will require increasing quantities of this element for flourishing cotton plantation. These areas will require, in coming years, quantities of this element equal to those of the El Ghab Plain. On this basis, the annual needs of these areas will reach not less than 15,000 tons of azote which represent three times the imported azote quantities in 1956, (amounting to nearly 5100 tons of azote) which clearly pictures the lacking of appreciation of this important feeding element andits capability for improving the agricultural production when it becomes available to the farmers.

It is evident that the output of the factory will not be totally consumed by the surrounding areas on the first start as the execution of the private and the Government Projects take a long period, but it is probable that the factory will suffice the whole requirements of the Syrian Region of azote fertilizers.

The establishment of this factory will agitate people for utilizing fertilizers which would lead to construction of extra factories in the large agricultural areas, notably in the Jezira and the Euphrates which consume small quantities of these fertilizers owing to the fertility of the soil which is recently employed in cultivation.

On the basis of the foregoing and in view of the constant need for azote fertilizers, the decision was made for the construction of a factory for the production of 15,000 tons of one of the components of azote. This output will in future be increased to 50% so that the total output will become 22.500 tons.

The selection of the azote compound was brought for discussion as there are various azotes, of which there are the simple fertilizers consisting of salts of azotes as ammoniac sulphates, ammoniac nitrates calcium ammonia and sodium ammonia. There are also the compound fertilizers composed of variable fertilizers in specific rates as nitrophosca which contains azote and potassium phosphates.

All these fertilizers are chemical components containing azote at the rate of 12% or 34% and each of them has specialities indicating its mode of employment and its suitability for the various soil and cultivations.

Of these the Nitrate of ammonia was selected out of all the azote fertilizers, for two main reasons:

1. This fertilizer is suitable for all the Syrian soil.

2. Availability of the preliminary substances for its manufacture, consisting of air which is the source of azote and oxygen. Fuel oil and water as sources of hydrogen.

Soil in Syria is generally alkaline and contains a high rate of calcium carbonate and active calcium.

It is therefore essential to observe that the fertilizers which we will employ must be free from calcium and other alkaline elements.

It is regretted that farmers are still employing fertilizers which do not suit the soil of this land such as calcium nitrate and sodium nitrate (known as Chili Nitrate).

Although these fertilizers feed the soil of its azote contents which is easily absorbed, it leaves behind alkaline remains which are harmful to the soil and its physical composition if employed for prolonged periods.

As regards ammoniac sulphate, it is a useful fertilizer but it needs a factory for sulphur and another factory for ammonia, but the ammoniac nitrate can be produced by one factory employing preliminary substances as will be shown later. The greatest advantage of this compound lies in its being entirely consumed, leaving no traces in the soil, in addition to a further advantage of a high rate of azote being there in existing. Whilst the ammoniac sulphate contains 21% of the slow-absorbed azote ammoniac, we see that ammoniac nitrate contains 34% of azote, of which half is ammoniac nitrate of quick absorption and the other half of azote ammoniac slowly transformed to component absorbed by plants during the course of growth stages within the limits of its capacity.

Manufacturing Ammoniac Nitrate

The preliminary substances required for the manufacture of this composite are three gazes, i.e. azote, oxygen and hydrogen.

Azote and oxygen are extracted from the air but hydrogen is extracted from mazout. The working processes in the factory are composed of four main stages:

1. Preparation of the preliminary substances in a pure form

2. Synthetic manufacture of ammoniac

3. Oxidizing a part of the ammoniac to be transformed to azote acid.

4. Reaction of ammoniac with azote and for composing ammoniac nitrate.

The following is a description of these stages:

1. Preparation of the preliminary substances

Azote and oxygen can be obtained by air compressed apparatuses under low temperature, so that the air becomes liquid and therefore azote and oxygen can be separated on the basis of the difference in the boiling point of these two gazes when they are in a liquid state.

Hydrogen is obtained by cracking off the mazout molicules under high temperature in the presence of oxygen and vapour. This process and reaction will make a gas mixture containing 35% - 40% of hydrogen which will be washed, purified and dried by means of refiners specialized for this purpose.

2. Synthetic manufacture of Ammoniac

Ammoniac is prepared by mixing suitable quantities of azote and hydrogen and exposing mixture to compression of about 350 kgs/cm2 and under 500 c temperature. These two gases will unite to form ammoniac which will be stored in the appropriate tanks.

3. Manufacture of Azote Acid

In this stage, a part of the ammoniac is taken an oxidized by mixing with the air at a temperature of about 800° degrees. On reaction, the produced gases to be dissolved in water for obtaining the dilated azote acid.

4. Manufacture of Ammoniac Nitrate

When ammonia gas reacts with the dilated azote acid, it will obtain the salt known by ammoniac nitrate. As this compound is one of the salts dissolved in water, the mixture should be evaporated after reaction to obtain ammoniac nitrate in a dry state fit for packing in sacks ready for use as fertilizer.

As the contents of ammoniac nitrate amount to 34% of azote, the 15,000 tons of azote which will be produced in the factory annually will represent 44,000 tons of ammoniac nitrate. This production will entail the approximate consumption of:

Electricity	12,000 KW
Vapour	13-18 tons per hour
Fuel oil (for production of hydrogen)	20,000 tons per year
Fuel oil (for production of vapour)	30,000 tons per year
Water for cooling and other processes	7,000 m3 per hour of which 6,500 are again poured into the River per hour.
Other various chemicals	120 tons per year.

Officials and workers

It is expected that the number of officials and workers in this factory will reach 400 distributed as follows:

Post	Number	Average Monthly Salary L.S.	Total Monthly salaries L.S.
Engineers	15	800	12.000
Technicians and workers bosses	40	450	18,000
Skilled workers	100	300	30,000
Unskilled workers	225	120	27,000
Administrative officials8	20	350	7,000
Monthly Total			94,000

Yearly Total = 94,000 x 12 = 1,128,100

Estimation of production costs

It is evident that the cost of production is one of the main factors to determine the suitability of any project for economic investments.

The cost of production of this factory cannot be accurately fixed prior to the regular working of the factory, but the major lines in estimating the annual fixed expenses will bring us to a near estimate of this cost.

The cost of construction of this factory is estimated at 30 million pounds. On this basis and in view of the annual needs of this factory for manpower, chemicals and fuel, it is possible to detail the major fixed expenses on the following approximate estimation:

Nature of expenditure	Total amount in L.S.
Depreciation of factory on the basis of 7% of the value	2,100,000
Salaries of officials and workers	1,466,000
Fuel (50,000 tons of fuel)	4,000,000
Chemicals	300,000
General other expenses	100,000
General Total	7,966,000

Therefore the cost of production of one ton of ammoniac nitrate shall be:

7,966,000 ÷ 44,000 = 181,05 Syrian Pounds

In comparison of this figure against the current price in the local markets of a ton of ammoniac nitrate sold at 240 pounds on the basis of 20% of azote element, whilst the new product will contain 34% of this element, that is to say that a ton produced by this factory will contain 1700 of the feeding elements for plants as compared with the commodity offered in the market which will amount to 408 pounds in value. This means that the cost of production of this fertilizer will be less than the half of the present current prices, a matter which will make its local production as a profitable project even if the present prices drop down. If we assume that the sale price of this fertilizer has been fixed at 200 pounds per ton (i.e. a profit of 10%), the annual profits will be about 83,000 pounds.

It should be pointed out that the actual cost of production will be lower than the above quoted figure as the price of fuel mentioned is the present current price (about 80 pounds per ton). Whereas when the Refinery starts supplying the factory with its requirements of fuel, this will lead to a market decrease in the cost of fuel which will make reflection on other production costs, effecting reduction, so that the total production cost per ton will reach about 140 pounds per ton.

The Factory and the Program for General Developments

This project can be considered as a ring in the chain of economic developments and a feature for tendence of the country to industrialization and will help in improving methods for exploitation of the soil on better lines and consequently increasing its production.

In respect to the industry aspect, it will stabilize industrialization policy which is vital to agricultural countries in order to raise the level of livelihood. This project is firmly connected with the project of the petroleum refinery, because it will depend, for its nearness to the refinery, on obtaining its fuel the refinery. At the meantime the refinery will obtain its needs of hydrogen gas for removing sulphur from the crude oil, from the factory, which will lessen the effects of this crude on the various apparatuses employing its derivatives, and which sulphur causes enormous damages leading to shortening its life. It should be pointed out that sulphur itself is advantageous in the manufacture of sulphuric acid which is one of the essential preliminary substances in the manufacture of sulphur fertilizers, to which Syria is badly in need to an equal or more extent to azote fertilizers.

This project, therefore, occupies an important situation in the General Development Program in view of its output and also for stabling other important industries.

Expected Benefits derived from project

The direct benefits of this project lies in its increased employment, in respect of the processes undertaken in the factory itself, and also the subsequent supplementary works lying in transport, distribution and consumption and the results obtained in the improvement of agriculture which will lead to activating the working machinery.

As regards long-term benefits, these lie in increasing the National Revenue by the way of improving the agricultural production and the consequent increase in taxation and other Government resources.

In respect of balance of payments, the importation of ammonia nitrate will be dispensed with due to the construction of this factory which will save a sum of not less than 15 million pounds of foreign currency per year.

Possibilities of future expansion

We have already explained that there is possibility for increasing the production of this factory by 50% but this increase is not sufficient to cope with the existing requirements for azote fertilizers. No doubt, the execution of irrigation and reclamation of lands projects and the consequent developments in the methods of agriculture will make essential the construction of no less than two supplementary factories in Syria for the production of ammonia nitrate, one at the Euphrates Dam and the other on the River Khabour to the East of El Jezira.

On the accomplishment of these works, Syria will realize self-satisfaction from the main point of view of agricultural production and would also cut a good distance to objectives of economic developments, lying in the expansion of national revenue and raising the level of livelihood.

CHAPTER III

METHODS FOR FINANCING THE DEVELOPMENT PROGRAM

Article XI of the Budget for Ten-Year Economic Development, 1958-1968, stipulated that the resources for financing these programs are:

1. Proceeds of foreign loans according to existing and future laws in this respect.
2. Proceeds of local loans of public Debt Fund, consisting of :
    a. Refunding former loans
    b. Private and Public Resources of the Case of Debt
    c. Investments of the Case of Debt Bonds in pursuance of existing or laws to be issued in this respect
    d. The ready Treasury Funds in pursuance of Article XIII of this law.
    e. Syria Central Bank in pursuance of Article XIII of this Law.
3. Receipts of Development projects.
4. Participation of State Budget.

The share of every source mentioned above in financing the Program in question is detailed hereunder:

1.	Proceeds of Development Project	1320.0 million pounds
2.	Other means for financing:	
a.	Case of Public Debt	838.5
b.	Participation of State Budget	
c.	Syrian Central Bank	2158.5
	Soviet loan	535.5
	Total	2694.0

N.B.: The total of 2694.0 is incorrect
It should read 4852.5

It is highly important to mention in this respect the distribution of the various expenditures and payments so that the reader will have ample knowledge of the cost of the Development Program.

1.	Internal expenditures	1506.0 million pounds
2.	Instalments of foreign loans 1958-1967	165.0
3.	Interests of " " " "	83.4
4.	Interests of Internal loans 1958-1967	15.0
		1769.4
5.	Reserve for settlement of internal loans	343.4
6.	" " " " interests of foreign loans after 1967-68	46.1
		2158.9
7.	Cost of apparatuse, machines etc. from Soviet Union	535.5
		2694.4

1. Proceeds of Development Projects

We will mention here the resources obtained from refunding costs of the irrigation projects and sale of products and services of the other Development Project or in other words we will review the financing methods in Table No. 2 appended to the budget of the Economic Development.

The proceeds obtained from execution of the Development include the following:

a. Proceeds resulting from the recovery of costs of Irrigation projects.
b. Proceeds obtained from the sale of Electric Power.
c. Proceeds obtained from the exploitation of Railroads.
d. Proceeds obtained from the exploitation of the Refinery and Tanks.
e. Proceeds obtained from other resources.

2. As regards proceeds collected from the recovery of Irrigation projects costs, two methods have been adopted in their collection:

a. Recovery of irrigation costs from private individuals and companies possessing lands which had benefited by the irrigation projects.
b. Sale of state lands which had benefited by the irrigation projects.

The area of lands which will benefit of the Irrigation Projects is estimated at 1,087,000 hectares, distributed as follows:

Euphrates	800,000 hectares
El Khabour	150,000
El Oronte	110,000
El Sinn	12,000
El Rouj	5,000
El Mzerib	7,000
Nahr El Kebir	3,000
Total	1,087,000 hectares

Out of this are, 700,000 hectares are State property and 387,000 are private property.

If we assume that the cost of irrigation of one hectare is 1,500 pounds, the total amount which could be recovered from the owners who will benefit from future irrigation projects, will reach 580 million pounds (387,000 x 1500 = 580,000,000).

If we assume that the average value of a hectare of irrigated lands sold to individuals and companies is (2,500) which is the lowest possible price, the total sums which could be collected will be (1750) million pounds (700,000 x 250 = 1,750,000,000). If this sum is added to the sum of (580) million pounds resulting from the recovery of irrigation costs from the owners, the total number of money recovered will be (2330) million pounds, which is lower than the figure inserted in the Budget for this source of financing which is (2205) million pounds which could be collected from this source during the coming 20 years. The amount which could be collected from the same source during the coming 10 years has been estimated at 795 million pounds which is by far lower than the expected sum to be collected. Because during this period the studies connected with all projects inserted in the Budget would have been completed and also the Reservoir which will be constructed on the Euphrates and a greater part of the electric power motors would have been established and the electric power could be then connected with Aleppo. We would therefore have a large area of the Euphrates lands suitable for irrigation, which can be irrigated from the water of this River.

On the other hand all the industrial works on the Khabour course such as the derivating dams and the Reservoirs and the irrigation networks would have been completed and would be capable of irrigating large areas of el Khabour lands.

In addition to above works, other works in the El Oronte, El Rouj, Mzerib, El Sinn, Barada and El Nahr El Kebir basins should be taken into consideration. It is expected that these works will be accomplished in 1960.

The execution of these projects will provide great areas of irrigated lands estimated at (137) thousand hectares, of which state lands shall be sold to private individuals which is the greater part of these lands and the remainder of private property and the cost of irrigation of which shall be recovered.

In addition to these proceeds, there are others which shall be obtained from the recovery of past irrigation projects which were distributed on long-terms of (65 years), the cost of recovery of which was reduced to 10 years.

Those proceeds will constitute a marked resource, in addition to other resources which shall come from the future irrigation projects.

The period of recovery of irrigation costs from the owners has been fixed by ten years in view of the pressing need for money for the execution of irrigation projects.

As the cost for irrigating one hectare has been estimated at 1500 pounds, the annual instalment will be 150 pounds. Considering that the general income of an irrigated hectare is about 1250 pounds, the net income per hectare will be 800 pounds after deducting all expenses, i.e. seeds, ploughing and machinery.

The amount of an instalment will constitute about 20% of the net income which will not lie heavy upon the shoulders of the owners, due to the fact that farmers who hire lands, give owners for dry farming lands, a rent equal to 20% of the revenue and 33% for irrigated lands. The balance will satisfy their livelihood and exploitation of the lands.

It is to be noted that our estimation for the net income per hectare corresponds with estimations undertaken by the experts of the South Region, who estimated that the average net income per acre (feddan) in Egypt amounts to (60) pounds or equal to (143) pounds per hectare, considering that our lands which will benefit by the irrigation projects are more fertile than exploited lands in the South Region and further may be considered as the most fertile lands in the World.

On the other hand, the expenditure of about 1422 million pounds on the irrigation projects in the course of the next 10 years, would probably lead to progressive increase in the National Revenue so that it may become at the end of the ten years to 900 million and 1000 million per year.

If we collect 200 million pounds, the owners would not be annoyed as they have obtained an equivalent increase from the income.

Eventually, it can be said that the additional yearly revenue resulting from the conversion of one hectare from dry farming to watered land, will increase the amount of annual instalment of hectare which is marked profit for the owner.

This is from the point of view of the capacity of owners for settling the instalments, but in respect of the capability of individuals who will purchase lands which shall be irrigated by means of the irrigation projects, the matter is easier, because it is expected that the value of those lands shall be settled on 15 annual instalments.

If we suppose that a farmer is given 5 hectares, the minimum limit as he can get 10 his net income will be 5 x 800 pounds = 4000 pounds on the basis that the net income per hectare is 800 pounds. Subtracting the amount of the annual instalment out of the net income i.e. 5 x 160 = 83o, on the basis that the value of the sold land is 2500 pounds distributed on 15 instalments, the balance left to the farmer as annual income for exploiting the five hectares will be (3170) pounds which is an annual income dreamt of by many dwellers of cities.

On the other hand, the annual instalment which shall be paid by the farmer in order to own an irrigated land, i.e. (166) pounds per hectare or (16,6) per dunum, is less than the annual rent of a dunum in irrigated lands.

3. Proceeds of Electricity Projects

The estimated amounts for the Electric Power proceeds is lower than the expected proceeds by one third. There are:

1. **In respect of the Euphrates Electric Project**

The observed capacity of this project during its three stages, as estimated by the Soviet Union Experts, is 300,000 KW. If we take this capacity as basis for calculations and this station would be operated by half this capacity, the output during the next 20 years of KWL/hour will be:

$$\frac{1.3 \text{ billion} \times 7}{3} + \frac{1.3 \times 2 \times 7}{3} + 1.3 \times 6 = \text{ or}$$

$$1.3 \text{ billion} \times 13 = 16.9 \text{ billion}$$

The total proceeds on this basis at the rate of 4 Syrian piastres per KW/hour will be 16.9 x 4 piastres = 676 million pounds, whereas our estimation for the proceeds of this project for the period in question did not exceed 420 million pounds, i.e. with a decrease of 256 million pounds, on the understanding that the station will operate on half its capacity.

2. **In respect of Mzerib Electric Project**

The observed capacity of this project is 4000 KW. If we suppose that the Centre will operate by 2/3 of its capacity, the output will be:

$$\frac{400 \times 24 \times 360 \times 2}{3} = 23{,}000{,}000 \text{ KW/hour yearly.}$$

The expected proceeds during the next 20 years will be: 23,000,000 x 4 x 20 = 18,4 million pounds, whereas our estimations for this resource did not exceed 16 million pounds, i.e. with a decrease of 2.4 million pounds.

3. **In respect of El Nahr El Kebir Electric Project**

The observed capacity of this project is 500 KW. If we suppose that this centre will be exploited at half the capacity, its annual output will be:

$$\frac{5000 \times 24 \times 260}{2} = 12.6 \text{ million KW/hour.}$$

The expected proceeds will be during the next 20 years as follows:

21.6 x 4 x 20= 16.04 million pounds, whereas our estimations for this resource did not exceed 14 million pounds, i.e. with a decrease of 2.040 million pounds.

4. **In respect of Homs Electric Project**

The observed capacity of this project is 18,000 KW. If we suppose that it will operate at 2/3 capacity, the annual output will be:

$$\frac{18{,}000 \times 24 \times 360 \times 2}{3} = 103.6 \text{ million KW/hour.}$$

The proceeds during the next to 20 years at the rate of 4 piastres per KW will be: 103.6 x 20 = 82.9 million pounds - our estimation did not exceed 70 million pounds, i.e. with a decrease of about 13 million pounds.

As regards the resources that could be gained by way of exploiting the railroad (Kamishli - Deir El-Zor, Aleppo - Latakia), it is expected that the revenue during the next 10 years will reach 100 million pounds. We are hoping to obtain a net income of this line as from 1963 - 1964 amounting to 20 million pounds as a greater part of the line will be completed in that year. The products which shall be transported by this railroad will amount to 3 million tons per year, owing to the expansion of cultivations in the Jezira and the Euphrates zones due to the execution of irrigation projects referred to before.

As regards revenues which shall be obtained from industries embodied in the program, consisting of Homs Refinery, the azote, petroleum and mineral factory, is hereby summarized:

a. Homs Refinery

We have reviewed this refinery in Articles II and III and explained that the average income will be about 28 million pounds per year on the basis that the refinery will operate at an average capacity of 1,000,000 tons per year, and on the basis that it will be operated on commercial conditions on the same lines as Sidon refinery at the Lebanon and on the basis of prices of deliveries at Homs to agree with the sale prices of crude oil products imported for the time being and on the basis of imposing fiscal fees on production equivalent to custom dues imposed on imported crude oil products so that the country will get rid of losses affecting the Revenue of the Budget due to the decrease in custom dues.

Due to the fact that the refinery on the start will operate at an annual capacity lower than one million tons and after the lapse of several years, at a capacity above 1,000,000 tons, the average revenue of the refinery will be estimated at about 25 million pounds per year, i.e. the total revenue during the course of the program will reach 200 million pounds on the grounds that exploitation will start in 1960.

b. Fertilizer Factory

This factory was designed on the basis of an annual output of 44,000 tons of grained ammonia nitrate. The expected revenue is about 2,000,000 pounds.

c. Proceeds of petroleum and minerals

The income from petroleum and mineral which it is hoped to obtain during the course of execution of the Development Program, has been estimated at 100 million pounds on the basis of the result of exploitation of petroleum which has been confirmed to be existing in Karachok area in the Jezira, in addition to other minerals which would be discovered in the various zones of the North Region.

d. Various Proceeds

Those proceeds were brought up to mind on the hope of collection in virtue of foreign partnership in the expenditures of the Reservoirs and Dams. The aim is to claim from Iraq for the value of the benefits obtained from the Projects of the Reservoirs and Dams which shall be constructed on the Euphrates, thus saving Iraqi from the danger of floods and increase of water outputs of which Iraqi can benefit by being utilized in irrigation projects. There are also some other incomes which may be due to the execution of the Development projects.

Other means of financing

Other means of financing can be summarized in the following:

a. Public case of debt
b. General State budget
c. Central Bank of Syria

a. (Proceeds of the Public Debt Fund)

We have already explained in Article II of volume of this Report that the sources of the Public Debt Fund are :

1. Recovery of previous loans

2. Public and private resources of the Public Debt Fund

3. Investments of bonds at the Public Administrations

4. Investments of bonds at the Commercial Banks.

5. Loans and borrowings of the Syrian Central Bank

We have also explained the capacity of every source in financing during the next 10 years.

Moreover, the Development Budget indicated that the Bank in question shall be charged to issue bonds of public debt in pursuance of Article 15 of the law on exceptional Budget and also stipulated that the Bank shall be charged to borrow from the liquid funds of the Treasury.

The Budget did not fix the amounts that could be obtained from this source but it was incorporated in the resources that could be obtained from the other two sources.

b. Resources of the General State Budget

The Exceptional Budget stipulated that a special amount should be assigned from the General State Budget to be expanded on some of the Development projects included in the Exceptional Budget.

As these projects have been entered in the ten year development Program, the Budget for the Development Program stipulated that the General State Budget should participate in financing these projects but it did not fix the amounts which are to be cut off the General State Budget annually but it was incorporated in the resources from could come from the other two sources.

c. The Central Bank of Syria

We have pointed out in Chapter II the minimum capacity of this source in financing or its essential participation in financing the Economic Developments in the Syrian Region, for this reason the Public Case of Debt was charged to borrow from the Central Bank a sum amounting 35% of the money deposited by the administrations and Public Establishments, in case the Public Case of Debt is unable to borrow from the available funds at the Treasury and that this loan would be counted as an element of covering, as stipulated in Article 35 of the Legislative Decree No. 85 of 28.3.1953.

Loans were also permitted from the Central Bank of the acceptance of covering as stipulated in Article 35 of the Main Currency Arrangement and that bondswould be accepted from owners who have benefited by the irrigation projects for refunding the costs of irrigation, improvement or sale of lands included in the Development Projects, provided that the bonds should be accompanied by any cash guarantee accepted by the Currency Board.

In order to avoid excessive loans, the Currency and Loan Board was given the power to fix the maximum loans by this procedure.

Amounts of loans from the three sources: The Public Case of Debt, the General State Budget and the Central Bank of Syria, have been fixed during the first seven years, as shown in the following figures:

1958-1959	65.0	million pounds
1959-1960	117.7	
1960-1961	167.3	
1961-1962	137.4	
1962-1963	164.1	
1963-1964	144.6	
1964-1965	42.8	

It is worthy to mention that the first method i.e. - participation of the General State Budget - is a confident method for financing prosperous project as it is not advisable to expend all budget proceeds on salaries, commodities and social and sanitary services only, but funds must be kept aside for development projects embodied in the Development Budget.

The Syrian Economy rely on internal loans as it did not depend on the local market in financing any project which is not the case in the South Region.

In addition to this, that during the period of executing these projects, light pressure on prices occurs due to increased expenses of productive commodities and internal loans which partly heightens the purchasing power which serves for mitigating this pressure.

As regards the reliance on the Central Bank revealing in granting loans on bonds signed by owners benefiting by the irrigation projects and which is followed in the absence of any other alternatives. This is essential for executing these prosperous projects.

In conclusion, we have to point out that our methods for financing the Development Projects are of characteristic feature, quite different of those adopted in the past as we have secured our needs for foreign currency without any need for resorting to the Currency Control as we will benefit by the subsidy offered by the Soviet Union in executing those projects.

Settlement of the loan will be easily effected by the foreign currency which shall be secured from the sale of surplus products of the expanded irrigated lands, and also by economising foreign currency for imports which are replaced by the products of the new industries.

SECTION D

EFFECTS OF THE DEVELOPMENT PROGRAM

CHAPTER I

Effects on the Agricultural Sector

The greater part of Syria was, and up till now is depending on rain water, and other natural factors which was effecting the level of agricultural production, varying from one year to the other.

These factors lead to the variation of prices, running on unstable basis. The matter even grew worse during the first World War as most of the agricultural workers were recruited and the manual labour considerably decreased. The agricultural sector suffered from lacking labour for long.

Furthermore, this section was vigorously shaken by the World Crisis of 1929. No sooner the situation in the Agricultural Sector began to ameliorate slowly than the second World War to break out. The most important effects on the Agricultural Sector caused by the World War II were the rise of Agricultural prices, leading to expansion in National Revenue which had in turn increased investments in this sector and also increase in the area of cultivated lands, either irrigated or dry farming.

Production was also improved by the introduction of implements. The Agricultural Sector yielded in 1957 various crops at the value of 1062 million pounds which constitutes 53% of the National Revenue which is a high rate reflecting the foreign commerce, as the share of the agricultural sector in foreign commerce reached 86% of the total of this commerce.

The following table indicates increases and decreases in the important crops and the cultivated lands during 1945-1956.

TABLE I

Unit in 1000 ton — In Thousand Hectars

Name of Crop	Production 1945	Production 1957	Rate of increase or decrease	Increase or decrease in production rate 1945-57	Productive rate per hectar 1947-57	Cultivated Area 1945	Cultivated Area 1957	Rate of increase or decrease in cultivated lands
Wheat	415	1,354	226%	10%	0.7%	715	1495	110%
Barley	248	721	190%	19%	0.8%	348	813	136%
Lentils	27.6	77.2	195%	38%	0.7%	46.2	93.1	101%
Beans	19.8	12.4	-43%	24%	0.5%	25.2	29.2	18%
Sugar cane	1.6	1.9	18%	29%	3	0.1	0.1	Unchanged
Beet root	93.05	61.1	-35%	300%	9.2	1	3.4	240%
Cotton	12.4	491.1	3861%	471%	1	17.5	372.2	1455%
Rice	14.5	2.2	-65%	-24%	2.4	7	2.4	66%
Maize	85.7	51.6	-39%	17%	0.8	107.1	70.3	-555%
Millet	23.8	15.1	-37%	-32%	1.1	23.9	10.1	-58%
Sesame	3.7	3	-19%	88%	0.5	6.8	22.6	232%

TABLE II

Year	N°. of Agricultural Workers	Net value of Agricultural Production	Amount of Investments in Agriculture	Rate of Investment to volume of investments	Workers/Production 100 Syrian Liras	Capital/production in Agriculture rate	Cost/Proceeds Rate
1952	927997	746,228,000	29,000,000	17%	1/8		
1953	946918	979,689,000	33,000,000	15%	1/10		
1954	965243	689,020,000	28,000,000	10%	1/7		
1955	985228	406,714,000	22,000,000	9%	1/4	2:1	1:5
1956	1,005335	741,644,000	20,000,000	8%	1/7		

B.

It will be seen from Table No. 1 of Production that there had been increase in the production of certain crops over those in 1945, i.e. in the years following the World War II as we find that the rate of the increase in wheat in 1957-226%, in barley 190%, in lentils 195, in cotton 3861%, as against decreases in other crops which are similarly important as crops for which production had expanded. The production of beet root descended by 35%, rice 65%, sesame 19%, maize 39%, millet 37% and peas 43%.

This table shows also other facts:

1. In respects of crops of which products had increased in 1957 than in 1945. The increase was not regular but it was constantly up and down according to good or bad market. The proof in support is that the rate of production during the ten years was not high as compared with the high price of crops in 1957 considering that the cultivated areas were increasing as the productive rates during the ten years in question were: wheat 10%, barley 19%, lentils 38%, peas 24% and cotton 300%.

2. As regards other crops, of which production had come down, this was not due to the nature of the land being unsuitable for the relative crops, but it was due to the areas being cultivated by these crops being continually diminishing, as farmers gave preference to the cultivation of cotton other than any crop and only plant minor areas of rice, beet root, millet, maize whilst in fact need is pressing for the cultivation of these crops, especially as, for instance, sesame will feed the industry of mineral oils, beet root feeds sugar industry of which the Region imports substantial quantities amounting to 23 million pounds in value. The cultivation of these crops will lead to decrease in production costs.

There is an important aspect in connection with agriculture in Syria in that the rate of production per hectare is low whilst there are available possibilities for increasing this rate if modern means similar to those of Japan, China and India were adopted.

The adoption of these modern lines will increase production but not the costs. Production will be increased by 50% had the modern lines been adopted.

As regards nature of lands in the Syrian Region, these are divided into two main divisions:

1. Exploited dry farming lands amounting to 4,559,000 hectares.

2. Watered lands amounting to 583,000 hectares which is highly fertile, the yield of which is equivalent to those in advanced countries, had modern lines been adopted. As a proof the yield of a hectare of cotton is equivalent to the yield of a hectare in the United States of America. There are two main characteristics in the productive power of the Syrian Region, i.e. the rate of capital/Production equals to 2-1, that is to say that the investment of two units of the capital in agriculture will increase the National Revenue by one unit of production which is a low rate of costs if compared with the rates of other countries reaching 3-1 or 4-1.

The second refers to the rates of production to proceeds. This is also low in the Syrian Region lying in 1-5. In other words if we suppose that the cultivation cost of a piece of land is 1000 pounds, the income which will come from these costs will be 5000 pounds which is a high rate which would enable the Syrian farmer to spend 3000 pounds and save 1000 pounds, i.e. 20% of his income which is a high rate only attained at advanced countries. The grant of 5 hectares will give to the Syrian farmer the opportunity of saving 5000 pounds annually.

In this connection we should point out that the productive power of a Syrian worker which do not exceed 1000 pounds annually is a low rate. So that it is essential to raise this rate by providing the worker with technical knowledge and capital to enable him to expand his productive capacity and to improve exploitation of his land in agreement with the economic development in the Syria Arab Republic.

TABLE III

Kind of Crop	Production 1956	Production 1957	Rate of increase and decrease	Yield in ton Hectare 1956	Yield in ton Hectare 1957
Wheat	1051.0	1354.0	29%	0.7	0.9
Barley	462.0	721	56%	0.7	0.9
Lentils	75.0	77.2	2%	0.9	0.8
Peas	14.1	12.4	-2%	0.6	0.4
Beet root	45.1	61.1	35%	15.1	18.1
Sugar cane	2.7	1.9	-49%	2.7	1.9
Cotton		491.1	97%	0.9	1.1
Rice	5.8	2.2	63%	5.8	2.2
Millet	75.4	51.6	-30%	0.9	0.7
Maize	14.8	15.1	-10%	1.5	1.6
Sesame	15.4	3	-80%	0.5	0.4

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Wheat	1051	1,354	29%	0.7	0.9
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Beet root	45,1	61.1	35%	15.1	18.1
Sugar cane	2.7	1.9	49%	2.7	1.9
Cotton		491.1	97%	0.9	1.1
Rice	5.8	2.2	63%	5.8	2.2
Millet	75.4	51.6	-30%	0.9	0.7
Maize	14.8	15.1	10%	1.5	1.6
Sesame	15.4	3	-80%	0.5	0.4

N/ B.

TABLE IV

Distribution of irrigated areas consequent to Projects according to the proposed agricultural turn and the expected volume of Production

Year	Summer Increased Lands Per Cent	Crop Turn Areas in 1000 Hectars	Cotton		Groceries		Vegetables		Beet	
			Increase in cultivated areas per 1000 hectars	production of 1000 ton	Increase in areas 1000 Hectars	production of 1000 ton	Increase in area 1000 Hectars	production of 1000 ton	Root Increase in area 1000 h	production of 1000 ton
1958	102%	17	6	6	3	2.1	3	27	3	27.6
1959	103%	25	10	10	5	3.5	5	45	5	46
1960	104%	33	13.2	13.2	6.1	4.27	6.1	45.9	6.1	56.12
1961	105%	42	16.2	16.2	8.1	5.67	8.1	72.9	8.1	74.52
1962	107%	57	22.8	22.8	11.4	7.98	11.4	102.6	11.4	104.88
1963	109%	75	30	30	15	10.5	15	135	15	128
1964	113%	108	42	42	21	14.7	21	189	21	133.2
1965	116%	132	52.8	52.8	26.4	18.28	26.4	237.6	26.4	242.88
1966	199%	157	63	63	31.2	21.82	31.2	280.8	31.2	287.04
1967	121%	174	70	70	34.8	24.36	34.8	303.2	34.8	320.16
	Total	820	326.0	326.0	162.0	113.18	162.0	1439.0	162.0	1420.40

TABLE V

Year	Winter Turn Increase of Lands per cent	Areas in Hectars	Wheat Increase of area per 1000 hectar	Production 1000 ton	Barley Increase of area per 1000 hectar	Production 1000 ton	Clover and Vetch Increased area 1000 hectar	Production 1000 ton
1958	102%	17	5	35	5	4	3	1.8
1959	103%	25	7.5	5.25	7.5	6	5	3.0
1960	104%	33	9.9	6.93	9.9	7.92	6.1	3.66
1961	105%	42	12.6	8.81	12.6	10.8	8.1	4.86
1962	107%	57	17	11.9	17	13.6	11.4	6.84
1963	109%	75	22.5	15.68	22.5	18	15	9.0
1964	113%	108	22.4	22.68	32.4	25.92	21	12.6
1965	116%	132	39.6	27.72	39.6	31.68	26.4	15.84
1966	119%	157	47.1	32.97	47.1	37.68	31.2	18.72
1967	121%	174	52.2	36.54	52.2	41.76	34.8	20.88
	Total	820	235.8	203.48	245.8	197.36	162.0	97.20

Effects of the Development Projects on Agricultural Sector

The official statistics indicate that the cultivated area in the Syrian Region equals to 4,650,000 hectares, of which 583,000 hectares are watered and 4,067,000 hectares are dry farming. The lands suitable for cultivation and not yet exploited amount to 2,569,000.

The expected expansion in irrigated areas following execution of the major irrigation projects is estimated at 825,000 hectares, which means that the area of irrigated lands in 1967 will reach 1,408,000 hectares and the rate of exploitation of cultivated lands will rise to 75% of the total lands suitable for cultivation.

This increase in irrigated areas will also increase the volume of production and will protect the agricultural sector of the effects of seasonal factors which expose the agricultural products to up and down.

If we take into consideration the quintaple turn for the cultivation of watered lands on the advice of the Soviet Experts, as indicated below, the following results will be obtained:

Table VI indicates rates of cultivated lands of the Development Projects, which is estimated at 825,000 hectares.

TABLE VI

		Yield ton hectare		1000 hectares	1000 ton
	Cotton	40%	1.0	330	330
The summer	Pulse	20%	0.8	165	132
	Beet root	20%	9.2	165	1518
	Vegetables	20%	1.0	165	165
	Water melon				
	Wheat	30%	0.7		172.9
	Barley	20%	0.8		132
	Clover	20%	1.0		165
	Barren	20%			

On the basis of this turn, the expected increase during ten years in agricultural products will be as follows:

Cotton	255.8	1000 ton
Pulse	113.40	" "
Vegetables	1446.6	" "
Beet root	320.16	" "
Wheat	204.96	" "
Barley	196.1	" "
Clover	97.2	" "

The obtainment of these quantities will depend on the execution of the major irrigation projects embodied in ten year Projects for the Syrian Region. The costs of irrigation works are approximately 1394 million pounds representing total expenditures and 287 million pounds liyng in foreign subsidies. These will be expended on the following projects:

TABLE VII

Name of Project	Total Expenditures	Foreign Funds
Euphrates Basin	1140	250
El Khabour Basin	75	1
El Ghab - El Asharneh	100	23
El Orontes High Basin	20	1
Nahr El Kebir Basin	20	8
El Rouj	4	-
El Sinn Basin	8	-
El Awaj Banias Basin	4	-
Barada Basin	15	1
El Yarmouk Basin	8	3
Total	1394	287

The Development Program has also assigned five million pounds from the internal funds for the study and execution of various works concerning development program in the agricultural sector.

On this basis, the total costs of the agricultural program will be 1399 million pounds from. This 287 million pounds in foreign funds, This means that the Agricultural Development Program will obtain 62% of the total expenditures of all projects during the ten years.

Following the accomplishment of these projects and realization of the objectives laid down in the Economic Development Program, the results of these will elevate the standard of the farmers and securing a better life for them, as such projects will create social evolution in rural areas and which will inspire in their souls energy, and enthusiasm for building a new society.

This energy will be reflected on other Arab Nations and will persuade them to follow same steps which will expand the productive power and heighten the life level.

The results will establish life on strong basis free from perturbation.

Marketing Agricultural Products

One of the most important factors which would help the development of economy in a country mainly depending on agricultural resources is to safeguard the farmers by providing reasonable prices for their products which will compensate their productive power and encourage them for more production.

The prices should as well be in favour of the planned program for improvement and economical development. In order to obtain these two aims, there must be an accurate and precise organization by an official competent and responsible authority, with the object of disposing of the surplus products in internal and external markets?

Such organizations necessitate co-operations for marketing products, and storing reserves for emergency.

There must also be an authority for supervising assortment of agricultural crops, cattle products. This will help in marketing those products in internal and external markets.

In order to assort those crops, a laboratory equipped with all scientific equipment shall be established for sorting and cleaning crops. These laboratories will be useful in finding out the causes for the bad quality of crops and how to remedy the existing defects for obtaining crops of superior quality.

There is an important aspect in connection with the internal marketing of crops lying in weights, measures, contracts of sale and purchase. These must be unified throughout the Syria Arab Republic as this procedure will certainly facilitate and purchase transactions.

On the other hand, it is important to obtain regularly latest news in respect of prices which is a fundamental factor for proper marketing.

Inadequate knowledge about the State of the market will lead to variation of prices. There may be certain commercial establishments who have good knowledge of the status of internal and external markets, but these establishments keep this information for their own use.

The Government should therefore create establishments for investigating the state of the local and foreign markets and regularly provide farmers with available news so that they will know their own way.

By so doing, the Government to give a helping hand to the farmers in marketing their products at encouraging prices.

It is also important that parcels be properly packed in cardboard paper to give good appearance as in accurate packing may lead to the contents being spoiled before being delivered to the importer. These questions may look simple but they may stampede-transport operations and cause enourmous damage to the products.

The Co-operation Societies must establish refrigerating apparatuses in the co-operative farms for preserving products from deterioration.

It would be advisable for special co-operations be instituted for transporting fresh products to abroad on air-conditioned trucks and also other co-operations for conveying fresh food-stuffs, as the prices of these air-conditioned trucks are high up and cannot be afforded by private individuals.

All these factors will help in disposing of our products in a good state to find good demands.

CHAPTER II

Effects on the Industrial Sector

Reciprocal Effects among Development Projects

If we cast a glance at the Development Projects in the North Region, we will observe that these projects are all complementary to one another and have reciprocal effects towards the realization of its main objective, chiefly lying in the increase of the National Income, i.e. expansion of the products and heightening the level of livelihood in the Syrian Region.

The irrigation projects and the Azote Fertilizer Factory will lead to the expansion of the agricultural area and naturally to the increase of products to cope with requirements of the Region andto transport surplus quantities abroad in receipt of foreign currency for settlement of foreign imports for industrialization of the Region and exploiting other various resources. In addition to the electric energy which could be obtained from the irrigation projects. We need not explain the value of electricity in industrialization of the Region and providing to towns and villages light.

In view of the impossibility for getting advantage of electric power before the lapse of several years, it was found essential to construct a Refinery for supplying the requirements of the Region for fuel and also for securing the needs of national defence and consumption.

The communication projects are important for industrial purposes at the moment the industrial products are ready for distribution. It is hoped that they will expand the local market and that products will reach the farthest towns and villages of the Region and will also lead to the creation of new markets for coping with the industrial expansion and increased production.

There is also the Five-Year Industrial Project which will absorb most of the agricultural products suitable for industrialization and the enormous manpower in excess of the Agricultural Sector. The surplus of the Agricultural Sector of manpower is estimated at about half million persons.

We feel in this concise of the importance of the development projects and we find that all react and reciprocate effects for realizing the objectives aimed at which lie in improving the standard of living of the people, expanding the National Revenue and creating a new purchasing power of enjoying the advantages of the new production and the economic luxury.

We will explain the effects of these development projects on the Industrial Sector for the sake of indicating the importance of these projects:

I. Irrigation Projects

These projects are of fundamental value, and would lead to industrialization, for the following reasons:

1. It will irrigate about 1,087,000 hectares in the course of 10 years which will result in doubling the agricultural products, especially the products which will feed the transforming industries such as cotton weaving, paper, mineral oils and preserved foodstuff and chemical industries and other industries depending on agricultural products as main sources of alimontary articles.

2. The increase of the National Revenue following the irrigation projects and covering all exponses is estimated at 788 million pounds in addition to the new agricultural products in excess to local consumption and which will be exported abroad against payment of foreign currency.

No doubt these new resources will stabilize the industrial sector and will heighten its productive level.

3. The increase and the doubling of the National Revenue will naturally increase the individual income and creating a new purchasing power absorbing the outputs of the new industries.

4. Supplying the industrial sector with manpower in excess to the needs of the agricultural sector. This surplus amount to 550,753 workers approximately. The present strength of the agricultural sector amounts to 1,589,106 but the necessary number practically required for exploiting the irrigated lands is 1,038,353 persons. This surplus in manpower is a reason for lowering the costs of agricultural production.

In order to carry on industrialization of the Region, it is essential to start with the agricultural sector by improving its productive level so that the Industrial Sector could be provided by its alimentary articles and to be financed by the value of products in excess transported abroad.

In view of the above reasons, the Economic Development Organization was keenly interested in the Irrigation Projects and had given them the priority to other projects in the Development Budget.

II. Communication Projects

The high fares of internal transportation and loss of harmony throughout lines of transport hinder the transport of industrial products to the various cities and villages of the Region.

The communication projects will therefore have direct effects on the industrial production as it will expand the extension of local markets and will open a wide scope for the industrial sector to exploit its maximum productive capacity.

Idle capitals will therefore be invested in supplementary productive industries. The general planning of the communication projects is based on laying down a standard railroad gauge to connect Kamishli-Latakia passing through Aleppo, in addition to another standard railroad gauge for connecting Homs with Damascus.

These two railroads will serve as the main artery to North Region communications. The public road networks will serve as branch arteries in complementing connections with the various towns and villages.

A credit of 365 million pounds had been inserted in the Economic Development Budgets for the execution of the communication projects including railroads, aerodromes, public roads and bridges.

These credits will be modified in a way to cover all expected costs which will be fixed on final studies.

III. The Azote Fertilizer Factory and the Geological Map

This is an important project for stabilizing transformed industries depending on agricultural products because as much as the soil is well fed with fertilizers, the greatest productive capacity will be obtained, at the same time the transformed industries will have the opportunity to increase its production, which will eventually increase general production, and raise the level of livelihood.

This project is firmly connected with the petroleum Refinery which will supply it with fuel and the hydrogen gases required in the manufacture of Azotic fertilizers.

The output of this factory is estimated at 44,000 tons per year. The credits assigned for this purpose amount to 30 million pounds.

This Factory will guarantee a portion of the future consumption, exceeding 100,000 per annum. For this reason, necessity calls for the establishment of other two supplementary factories for producing azotic fertilizers, one on the Euphrates and the other on the Khabour River.

The Soviet Agreement concluded that general geological studies and making of a map for the Syrian Region with a scale of 1 / 200,000 will be undertaken along with another map for indicating of chromite, asbestos, iron ore, and magnasium in order to decide as to the nature of the industries to be introduced in the Syrian Region.

The Electric Power and the Petroleum Refinery

Electric power is considered as the muscle of industry especially in countries where other sorts of fuel are hard to employ. It needs not to be explained that the capacity of a KW/hour is equivalent to the working power of 44 workers.

As attention is now directed to the industrialization of the Syrian Region, it is therefore logic to provide the Region with adequate electric power for coping with the needs of industry, besides other demands for consumption.

All the existing electric projects are exclusively based on generating power by means of the hydraulic energy developed by water falls which is less costly than power generated by thermal motors.

The cheap production cost will lead to cheap sale. The price per KW/hour is estimated at 4 Syrian Piastres.

The consequence of this cheap price of electric power will lead to its wide spread and prevalence throughout the Region which would result to the creation of other new electric industries.

The most important chemical industry which depends on electricity is the ammoniac nitrate industry which is a fundamental element in the Asotic Fertilizer Industry.

These industries will respond to the various demands of consumption for electric installations and apparatuses as Radios, Washers, Refrigorators, Ovens and tools and machinery required for running factories.

As the greatest part of electric power at present is being generated by Diesel and Steam engines, it is hoped that these projects will save a great lot of foreign currency which the country pays for imports of fuel, engines, various apparatuses and other electric equipment which could be manufactured locally, had these been cheaper electric power.

Electric generation is in excess. It increased during the years 1952-56 from 180 million KW/hour to 315 million KW/hour. The industrial companies have generated about 45% of the total production.

Certain countries estimate National Revenue on the amount of electric consumption. The evolution in electric generation in the Syrian Region will give an idea of the extent of developments in the industrial sector, level of livelihood and in public economic activities.

It is evident that the electric projects will double electric production. Experts have estimated that the existing Syrian hydraulic resources(23 million m3) of water annually could give an energy of no less than 500,000 kw on the basis of the average difference of height is 100 m.

We hereby detail the projects of the hydraulic centres for generating energy as embodied in economic and technical agreement made out with the Soviet Union.

1. Construction of a Reservoir and Hydraulic centre on the Euphrates for generating electricity.

Studies are being centralized for the construction of the Reservoir in two sites, the first provides 100-140 thousand KW/hour, and the second about 200-280 KW/hour which are the estimations of the first stage.

The new studies revealed that the minimum capacity has been estimated at 300,000 KW/hour at the second site.

Work will commence in this centre as from the beginning of 1960 and will be finished by 1967.

2. Hydraulic centre for generating power in the River Yarmouk basin, having the power of 3000 KW/hour.

3. Hydraulic centre at Homs Zone with 3000 KW/hour capacity.

4. Preparation of a plan and studies on the possibilities of making advantage of Nahr El Kebir in generating electric power.

5. Two steam centres for generating power in Damascus and Aleppo having the power of 15,000 KW/hour, each.

The credits which have been assigned in the Development Budget amount to 285,000,000 million pounds.

As the production of the new electric power will take some time for accomplishment and generation of power is not expected earlier than 1967, requirements will therefore depend on fuel oil and mazout.

The importance of the Refinery needs no explanation for securing the needs of the future industrial expansion following the application of the Five-Year Program. In addition to responding to the needs of the National Defence.

It is decided to construct the Refinery in Homs for economic reasons connected with consumption and availability of alimentary articles. Its capacity is one million tons but it will operate on three quarter capacity, i.e. 750,000 tons which exceeds local consumption by 100,000 tons.

The credits assigned for the construction of the Refinery are estimated at 70 million pounds inserted in the Development Budget.

It will be ready for operation in July 1959.

Five Year Industrial Program

The Five-Year Industrial Program for the Syrian Region is based on the same lines as the Five-Year Industrial Program for the Egyptian Region, this project aims at the realization of expansion as those obtained by the industrialization program for the Egyptian Region.

The expected increase in the Industrial Revenue is expected to exceed 600 million pounds, i.e. the Industrial National Revenue will increase at the rate of 37% and therefore the National Revenue will rise from 1700 million pounds to more than 1900 million pounds during the course of 5 years.

This program, in conjunction with the Development Budget projects, will realize increase in the National Revenue and subsequently in the level of livelihood in the Syrian Region, so that the General National Revenue at the termination of the next ten years will reach 3000 million pounds approximately.

Before we explain these industries in detail, we better discuss the basis on which this program stands.

I. One of the fundamental basis for realizing reciprocal complementing industry between the two Regions and avoiding competition, is to specialize in production so that each Region will serve as a market for the other Region on the basis of mutual balance.

II. Employment of alimentary articles from the Syrian Region resources.

III. Absorption of the greatest number of manpower for sufficient practice on the various requirements of industrialization.

IV. Priority has been given to industries more capable of increasing the National Revenue and absorbing the alimentary articles and other resources for the working processes.

As the increase to be realized in the industrial National Revenue at the termination of the Five-Year Project is 187 million pounds, this requires the investment of 560 million pounds in the Industrial Sector at the rate of 120 million pounds annually, in addition to another 120 million pounds for the accomplishment of the Development Projects in accordance with the Soviet Technical and Economical Co-operation during the coming seven years.

The main industries contained in the project are:

1. The Petroleum Industry, comprising of:
    - a. Augmenting operations of searches, exploration and exploitation.
    - b. Construction of a unit for petroleum refining at Kamishli near the oil field at Karachok for feeding the agricultural zone there.
    - c. Laying down two pipelines, one at Homs, Hama-Aleppo and the other at Homs-Damascus.
    - d. Institution of a pipeline for transport of petroleum from Karachok oil fields to the Sea Coast.
    - e. Construction of tanks for storing petroleum and other supplementary works in the main distribution centres in the Region.

2. **Mineral Industries**
    - a. Exploitation of lead ore in the Jebat El Zeit and ores of Radio-active substances near to Akraba village and phosphorates substances at Hebria and Ombachi.
    - b. Exploitation of asphalt and celicus rocks and ones of thermal substances, porcelain and gypsum.
    - c. Exploiting mines at Qabul, Jerund, Tadmor.

3. **Transformed Industries**

a. Spinning and weaving wool and cotton.

b. Chemical and foodstuff industries.

The chemical industries aim at exploiting forest wood in the industry of Kraft Paper and Press Paper and Rayon Pulp in addition to Azote Fertilizer, phosphate and nitric acid industries.

The food industry comprises milk and its products cans and canning of fresh fruits and hydrogenised oils and olive oil.

Engineering, metal and building industries. These include barrels expansion of chain industry, installation of radio apparatuses (malleables) metal works such as bridges, frames, electric lifts and hoisting machines.

The building industry aims at the exploitation of raws in abundance for the expansion of the Cement Industry, Marble plates and building stones, and exploiting the Gypsum and Plaster factories.

This industrial project is not final but it is liable to modifications or alterations on the light of statistics or any future internal and external circumstances.

Chapter III

Effects of the Development Program on Commerce and Commercial Balance

One of the most important problems who legislative economists come across on laying down a development program is the problem of foreign commerce and the part which this commerce will play in the course of execution of the intended program.

The importance of foreign commerce will be evident in countries starting the operations of industrialization and economic construction when those countries have no machinery or apparatuses in their possession which will be employed in these operations.

Whenever, exploitation is progressing, the volume of imports will comparatively be increased especially in the earlier years of the economic construction.

Importation depends on the amount of foreign currency, foreign subsidy and local funds which the country carrying on the enforcement of the program, keeps at its disposal.

The planning and priority policy is connected with 3 other factors:

1. Importation of industries and machinery for local production.
2. Importation of heavy industries for producing apparatuses and other machinery.
3. Importation of industries for the production of articles to be exported and which will give receipts to be utilized in the purchase of foreign commodities i.e. apparatuses, machines and other articles of consumption in order to put an end to importations in future.

These three factors were brought to the notice of the Authority on planning with the object of outlining an economic development policy as the adoption of any of this factor will direct economy to the intended objective.

1. If the Authority in charge of the National Economy desires to increase the amount of investments to the highest possible level, they must choose the method for increasing investments in heavy industry, i.e. constructing factories which will construct other factories. The rate of investment in this respect should constitute the highest rate of the volume of investments. This is the method which had been pursued by the Soviet Union on starting industrialization.

If the Authority in charge of the National Economy is unable to draw up the Program due to some considerations other than economic, either of the two alternatives should be adopted.

2. To increase in the production of consumer articles for internal market and to decrease the importation of consumer articles and to import in place, machinery, tools and apparatuses.

3. Or to increase production of articles for export and to import instead, machinery and apparatuses.

The Authority in question can adopt the 3 methods in drawing up their Program or to adopt the ultimate 2 alternations which would lessen the burden borne by the public.

On the light of those economic rules, we will investigate the foreign commerce of the Syrian Region, basing our analysis on the Economic Program for agriculture and industry for 1958-67.

Table I

Financing Great Irrigation Projects

Year	Foreign Credit	Interest of Foreign Credit	General Total
1958-59	15.8	2.0	17.8
1959-60	43.4	5.0	48.4
1960-61	118.8	7.5	126.3
1961-62	112.5	10.5	123.0
1962-63	103.0	12.2	115.2
1963-64	85.0	13.0	98.0
1964-65	57.0	12.2	69.2
1965-66	-	11.0	11.0
1966-67	-	10.0	10.0
	535.5	83.4	618.9

It will be observed from Table 1 that the costs of the Economic Development Projects for irrigation in Syria during ten years will be 535.5 million Syrian Pounds of foreign currency of which the sum of 36 million pounds should be deducted and added to industrialization program.

On these basis, the costs of the major irrigation projects and supplementary works, i.e. studies air-photo, railroads, digging of wells, etc. will be 499.5 million pounds of foreign currency and 1769.4 million of local currency, of which 14 million shall be deducted on account of certain projects having been transferred to the Five-Year Industrial Program. The balance will therefore be 1755.4 million pounds of local currency.

The general total of costs of the irrigation projects of foreign and local currencies will be 2254.9 million pounds, 224 local and 336 foreign currency.

It will be elicited that the total costs of the agricultural and industrial projects of the Ten-Year Program will become 2814.9 million pounds, of which 1979.4 million pounds are local and 835.5 million pounds are foreign currency. The Soviet Union will provide the sum of 535.5 million pounds and a sum of 134 million pounds will be saved during the period of industrialization on account of the foreign imports having been replaced by local production.

The remaining costs for the Industrial Program will be financed by the Japanese and German loans of which 360 million have been assigned for the Syrian Region.

This will ensure the accomplishment of the Industrialization Program in the course of the five years.

Analysis of the Program

On analysing the Economic Development Program planned for agriculture and industry for the Syrian Region, we will find that the execution of this Program will reflect direct and indirect effects on the foreign commerce.

As regards the Agricultural Sector, the effects are direct and will lead to the increase in the volume of foreign commerce as production will increase during the ten years by 900 or 1000 million, which exceed the amount of the loan offered for the execution of the Agricultural Program. There will therefore be a possibility for refunding a part of the loan which will encourage and stabilize exchange of commerce with the Soviet Union by exporting a portion of the surplus to the Soviet Union in settlement of loans and purchase of equipment which the operation of Economic Improvement calls for and this is the indirect effect on the foreign commerce. Then there will be the possibility which would enable the Syrian Region to export other portions of its agricultural products to the European countries which need them.

The Syrian Region will therefore be able to import for these countries industrial and semi-industrial articles involved in Syrian industries.

It would be deduced that the Agricultural Sector will lead to the augmentation of commercial relations with all countries, Western and Eastern.

Table No. 2

		Rate
Petroleum industry	266,160,000	47.7%
Mining industry	2,430,000	0.1
Productive capability	14,283,000	2.5
Transformed industry	216,900,000	38.7
Reserve	60,227,000	11.5

The Development Program for industry includes the working of materials shown in Table 2. It will be observed from the Industrial Program that the policy adopted in the industrialization program depends on creation of local industries which will take the place of importation of articles which can be produced locally. The value of these articles is about 134 million pounds of foreign currency. The program will also entail the importation of machinery and other articles in foreign currency amounting to 336 million pounds.

It will be seen that the procedure of the economic development program follows two complementary policies in that the Development Program for the Agricultural Sector will lead to excess in exports after local requirements having been satisfied and on the other hand the surplus of agricultural products will serve for financing the industrial sector.

It is also to be noted that the industrial program aims for the production of industrial articles which can be manufactured in the Syrian Region in order to replace those which are being imported. It will therefore diminish the purchase of articles for main consumption which will be replaced by the purchase of apparatuses and machinery for production operations.

This analysis will elicit. the fact that the Economic Development Program in the Syrian Region will expand the volume of foreign commerce due to the importation of machinery and other articles amounting to 835.5 million pounds. Furthermore, it will economize 134 million pounds being value of equipment manufactured locally in place of those formerly.

Internal Commerce

The main basis for the expansion of internal commerce is the privilege of communication networks connecting each other throughout the Region.

The Economic Development Program laid down a provision for the establishment of railroads for linking all parts of the Region and construction of new roads for connecting the various parts of the country with the city.

The execution of these works will expand the scope of the local market and the exchange of products throughout Governorates.

This operation will lead to change of methods of production and the procedure of sale and purchase as economy will move from the primitive stage of barter to the stage of cash (it is of interest to mention here that the Economic Development Program will provide the local market during the period of its execution with local currency amounting to 2305.9 million pounds.

The evolution from the barter stage to the cash stage will mean that the rural production will not be restricted to consumption but to marketing.

But there is a problem which will manifest itself in this stage lying in the excessive demands on articles of consumption and preliminary articles for construction such as cement. This state will lead to elevation of prices which will cause financial inflation or this can be avoided if the policy to be followed will aim at the transfer from the barter to the cash stage being conducted at various intervals which will correspond with the increase of production and priority of productive projects within the shortest time and the extent of flexibility of villagers during the stage of conversion to cash.

Commercial Relations

A Glance at the Past and the Future

Foreign commerce is no longer predominated by a lot of imperialist countries which have in the past made enormous profits due to their domination on capital funds and technical experience.

These countries have dominated on the countries of Asia and Africa until they became and called unadvanced countries.

England was in the nineteenth century dominating over the world economics for being a great power. She did not satisfy herself of governing countries economically and making enormous profits therefrom but this was extended to the political situation of these countries being also controlled by England.

Most of the world commerce was therefore governed by English Laws and restrictions.

On the auguration of the Twentieth Century other countries appeared in the horizon which started to rival England, such as Germany and France in the West and Japan in the East which is the only Asiatic country which rivalled the Western Great countries in the field of foreign commerce.

This rivalry created competition for obtaining raw materials following the closure by England of the open door for foreign commerce and tightened the knot around Germany and Japan. This caused crisis in these two countries and the gravity of these crisis caused the World War I to break out.

The War resulted to the distribution of the Asiatic and African countries over the victorious countries with England having the lion's share. This situation remained in force until the outbreak of World War II which ended to the division of World into two encampments, the imperialist encampment under the leadership of the U.S.A. still enforcing the practice of exploiting the greatest part of the World countries and a socialist encampment headed by the Soviet Union.

This new division has changed the phase because the weak nations began to revive and indeavoured to regain their independence and to participate in economic advancements.

This action aroused the hostility of the European Countries which were not in favour of the struggle of the weak nations.

The Western Countries co-operated in creating markets for their own, establishing the European Market and the African Market. These markets and amalgamations resisted the national liberation struggles in Asia and Africa.

The Eastern Nations, took no notice of these hostile deeds and never submitted but in the contrary, they also instituted similar markets, i.e. the Asia African Market and the United Arab Market as well as the African Market.

We will therefore see that the Nations of Africa and Asia have all agreed to get rid of all factors which were the cause of their lateness. This national intention regularly and rapidly increasing, opened the door wide to these nations to have an equal share in the welfare of mankind.

We need not explain that the commercial relations were no longer subjected to the wishes of the dominating countries over capitals as heretobefore, but nowadays our products find various markets in Asia, Africa, and in the Social encampment and also in neutral Western countries.

Those markets will evidently offer good and reasonable prices for our products.

It should be pointed out that the operation of economic advancement needs heavy and light food and industrial products. Therefore demands in world commerce will persistently increase for these products, especially during the first stage of economic advancement and later the commercial relations will be established on the basis of costs compared with reciprocal interests.

Balance of Commerce

The political relations imposed commercial relations with special countries. On the other hand the World Political situation made of Syria an agriculture country and to import from abroad industrial materials for consumption and machinery and apparatuses for producing articles for consumption.

On these basis the formation of capitals of Syria was not characteristic of independence as it could not be liberated from restrictions with which it was tied up, as industries which were existing in Syria were depending on imports because these industries were lacking raws which had to be imported from these countries during the process of production. Syria was therefore to secure foreign currency for these products.

As the main production in Syria depends on agriculture, the exports are chiefly of either vegetable or cattle origin. These exports amounted to 455 million pounds in 1956, i.e. 86% of the total volume of exports.

This economic situation of Syria directed or agricultural production only made the economic balance of Syria in a state of constant deficiency as no comparison could be made with Syria, exporting alimentary agricultural articles and other countries exporting industrial materials.

This is apparent on analysing the foreign commerce of the Syrian Region as the commercial balance with the United Kingdom and the United States of America was not in any case in the favour of Syria.

In respect of the United Kingdom the deficits in the commercial balance of Syria during the year 1950-51 was 20 million pounds but in 1952 it was in favour of Syria and registered an excess of 13 million pounds but in subsequent years it was no longer in Syria's favour. The deficits were as follows:

Year	**Amount of deficits in million**
1954	69
1955	15
1956	74
1957	41

The United States. The commercial balance was invariably deficient. The amount of deficits were as shown hereunder:

1950-51	19
1952-53	30
1954	17
1955	16
1956	42
1957	25

France. The commercial balance was almost in favour of Syria.

1950-51	equal
1952-53	equal
1954	56
1955	56 in excess
1956	35
1957	9

There had been no commercial transactions in a high level with the Asian-African Blockcountries on account of these countries were tied up with political restrictions when they were under British or French influence. On the other hand, the commercial relations with the Eastern Block, i.e. the Soviet Union and the countries of Eastern Europe and China, were not developing.

The commercial relationship with the Soviet Union started to develop early in 1957 as the value of imports to the Soviet Union amounted to 11 million pounds and value of exports reached 12 million pounds. The commercial balance was therefore in Syria favour.

Table I

1950 - 1951

Name of Country	Imports	Exports	Order of Country
United Kingdom	23,543	3,462	3
United States	21,235	2,272	5
France	11,487	11,025	1
Iraqi	6,572	3,242	4
Turkey	3,145	136	11
China	2,582	-	-
Holland	2,212	202	10
Egypt	2,124	1,597	6
Saudi Arabia	1,931	1,003	7
Western Germany	1,301	288	9
Jordan	752	3,628	2
Tzechoslovakia	671	-	-
Poland	597	-	-
Roumania	593	-	-
India	473	-	-
Soviet Union	460	-	-
Ceylon	253	690	8
Japan	187	-	-
Yougoslavia	101	-	-
Sudan	66	-	-
Hungary	32	-	-

Tablo II

1952 - 1953

United States	49,180	19,157	6
France	48,064	72,271	2
Lebanon	38,567	123,408	1
Western Germany	32,978	27,332	4
Holland	14,199	42,496	3
Saudi Arabia	11,873	12,188	8
India	9,963	93	15
Yougoslavia	9,918	1,084	12
Western Jordan	9,064	20,942	5
Turkey	6,623	406	12
Iraqi	6,172	16,225	7
Japan	6,017	1,998	11
Roumania	2,982	-	-
Ceylon	2,101	15	16
Hungary	1,777	261	13
Tzechoslovakia	1,529	12	17
Egypt	1,825	3,428	9
Poland	777	-	-
Sudan	327	213	14
Soviet Union	255	-	-
China	224	1,412	10
Yemen	28	-	-

Table III
1954

Name of Country according to Importance	Imports	Exports	Order of Country
United States	49.180	19,157	6
United Kingdom	48,771	29,495	3
France	48,064	72,271	1
Western Germany	39,458	27,932	4
Saudi Arabia	4,724	12,001	8
Holland	14,199	42,496	2
India	9,963	93	14
Yugoslavia	9,918	1,584	11
Jordan	9,964	20,942	5
Turkey	6,623	406	12
Iraqi	6,172	16,255	7
Japan	6,017	1,998	10
Egypt	4,788	3,063	9
Tzechoslovakia	3,708	12	-
Roumania	2,982	12	-
Ceylon	2,101	15	-
Hungary	1,777	261	13
Poland	777	-	-
Bulgaria	421	24	15
Lebanon	391	92	16
China	494	2,142	10
Soviet Union	255	-	-
Siam	53	-	-

Table IV
1955

United Kingdom	55,027	40,422	3
Western Germany	44,062	21,383	4
France	42,736	98,119	2
United States	37,650	21,285	5
Iraqi	26,532	12,822	8
Lebanon	25,324	101,140	1
Saudi Arabia	14,904	10,790	9
Bulgaria	12,279	643	15
Japan	10,700	14,030	6
Jordan	9,436	17,237	7
Holland	8,838	1,096	14
India	7,216	301	-
Egypt	6,822	5,169	10
Turkey	5,321	2,010	13
Tzechoslovakia	-	4,582	11
Yugoslavia	5,260	2,239	12
Ceylon	3,935	-	-
Hungary	1,875	-	-
Poland	513	-	-
Eastern Germany	419	-	-
Soviet Union	406	-	-
China	336	590	16
Sudan	311	280	17
Siam	10	-	-

Table V

Name of Country according to Importance	Imports	Exports	Order of Country
United Kingdom	52,863	56,831	-
United States	37,697	5,038	12
Western Germany	43,188	90,906	2
Lebanon	40,191	254,631	1
France	36,204	29,153	4
Iraqi	28,308	27,670	6
Saudi Arabia	22,359	18,375	8
Japan	10,273	2,314	14
Holland	10,081	36,754	5
Jordan	10,070	16,863	9
Egypt	8,344	25,244	7
Turkey	7,304	-	-
India	7,195	-	-
Yugoslavia	4,891	11,601	11
Roumania	3,737	-	-
Ceylon	2,738	-	-
Tzechoslovakia	2,002	49,211	3
Eastern Germany	1,182	3,000	13
Soviet Union	1,176	1,790	15
Bulgaria	1,064	12,279	10

Table VI
1957

United States	69,143	20,775	9
Western Germany	65,671	29,594	4
United Kingdom	47,543	6,146	16
France	42,773	56,379	2
Iraqi	34,020	25,774	6
Saudi Arabia	30,782	22,342	7
Lebanon	22,601	92,961	1
Japan	21,090	7,506	15
Holland	17,677	11,371	2
Egypt	14,262	31,785	5
Jordan	12,589	17,767	10
Tzechoslovakia	11,707	23,840	8
Soviet Union	11,461	12,299	11
India	10,763	1,013	-
Yugoslavia	10,125	8,662	13
Roumania	7,766	4,324	18
Ceylon	7,035	-	-
Eastern Germany	5,335	2,155	20
Bulgaria	4,493	7,904	14
Turkey	3,735	-	-
Hungary	2,839	3,334	19
Poland	1,771	5,455	17
China	1,757	36,763	3

CHAPTER IV

Effects of the Development Program on the National Revenue and level of livelihood

Introduction

The Economic Planning policy in the Syrian Region aims at the realization of two main objects which are connected with the welfare of the majority of population in Syria in respect of improving their routine, social and cultural status and rising their level of living.

The first objective was realized as steps had already been undertaken for extensive social improvements aiming to stabilizing the Social co-operative organization which will re-organize distribution of wealth on justifiable basis which will eliminate the enormous difference throughout the incomes of individuals in order to lessen the tension of poverty.

Furthermore it will decrease major royalty in the Agricultural Sector and the exploitation of manpower by capitalists.

On the other hand, the death-duty will be precisely organized in virtue of the social regime and the progressive taxation will be enforced. This procedure will alleviate the constraint of the economic density of population of which the Region is suffering in the rural areas.

The economic density of the population, at the time being plays a constricuous part in the lowering of the livelihood's level. Its constitutes one of the reasons leading to the reduction in individual incomes because it indicates the volume of crowding of people in certain zones on one unit of capital. This presume will undoubtedly lead to internal voluntary emigration from thickly populated zones to other lesser populated zones in the course of execution of the Development Projects.

It is to be understood that foregoing steps will only effect partial improvement to the individual income and the heightening the level of livelihood when compared with the brilliant results due to increasing the colume of production, and heightening its level. This is the main objective of the Economic Planning Policy for the Development Program.

The expansion of production volume is a substantial matter for which the Society is in great need for heightening the general standard of life.

The elevation of the level of life depends on abundant production of commodities and services, i.e. foodstuffs, clothing and lodgings etc. which the society employs for consumption.

It is evident that the quantities consumed indicate the volume of production as it is illogic that we consume unless we can produce. The volume of these commodities determines our material and moral levels.

It is therefore evident that our level can be heightened through the expansion of the productive volume, i.e. by increasing quantities of produced commodities for coping with the requirements of the society and become within reach of our compatriots.

Whenever production is expanded, the Internal consumption power will accordingly be increased as well as exports. The National Revenue and income of private individual will also have similar results.

This will be the corner-stone for our economic constructions which will open the door wide before the Arab compatriot in the field of production and energy.

The Syrian Region is rich of manpower and materials which could be utilized in the economic development operations which will enormously expand the National Revenue and increase private income.

Syria has also other natural resources, the exploitation of which ensures gratifying results for increasing the level of national and private incomes.

Expected Increase in the National Revenue in consequence of Development Projects

It is difficult to estimate the expected increases in the national revenue during the next ten years owing to the absence of reliable resources, especially when we know that the income for 1957 of the various industrial sectors is still unknown.

In view to our possession of small datas collected from various sources and on the light of our own knowledge and experience, we shall undertake to work out these estimations and make accurate analysis so that the figures obtained will be too near to correctness.

The study included the expected annual increase for each separate economic sector and amount of increases in national revenue following execution of the development projects. In our estimations of the national revenue we depended on figures from the Statistical Province and on the various evolutions of the national revenue during the past years. Those have revealed that its amount for 1957, which were taken as basis, is estimated at 2182 million pounds.

Table 1, shows that during the next 10 years the national revenue will rise at the rate of 68.9% at the termination of 1967 in which the general increase participating in heightening up the level of national revenue will reach 1504.2 million pounds, i.e. that the total national revenue at the end of that year will rise to 3686.2 million pounds approximately. This will be realized by the glorious results which shall be gained from the execution of the development projects in the industrial, agricultural and communication sectors.

Table 1 also illustrates that the national revenue will double in a period less than twenty years and accurately speaking in the year 1972, i.e. after the lapse of 15 years. On the other hand we foresee that the increase in population will be lower, as the population of the Region shall not be doubled before the year 1990.

TABLE I

Expected Increase in the National Revenue during the next 10 Years in Million Liras

Year	National Revenue	Annual Increase	Annual Decrease	General Actual Total	Rate on the basis of 1957	Average amount	Increase per cent
1957	2182	—	—	—	100%	136.7	6.1%
1958	1784.6	—	—	—	82.2%	—	—
1959	2286.9	104.9	397,4	104,9	104.8%		
1960	2387.9	101	—	205.9	109.3%		
1961	2507.6	119.7	—	325.6	114.9%	—	—
1962	2643.2	135.6	—	511.2	121%	—	—
1963	2793.3	150.1	—	611.3	128%	—	—
1964	2989.7	196.4	—	807.7	137%	—	—
1965	3202.2	212.5	—	1020.2	146.7%	—	—
1966	3443.2	243	—	1261.2	157.8%	—	—
1967	3686.2		—	1504	168.9%	—	—

Distribution of National Revenue on various sectors of the Economic sector

The National Revenue obtained from the agricultural sector in 1957 is equal to 48.6% of the general national revenue.

If the rate of revenue coming from the commercial sector, i.e. 13.2% be added and also the revenue of the industrial sector amounting to 12.5% be included, it will be apparent that these three sectors, out of the nine sectors of the Economic sector, feed the national revenue by about 75%.

We have already explained that the agricultural sector feeds the national income by not less than 48% and this is why our economy is yearly exposed to serious crisis due to obstruction of rain water which causes periodical barrenness. Whenever these crisis make appearance our national revenue incurs serious losses which considerably affect our standard of livelihood.

It is therefore of vital importance for starting immediate conversion of our economy from Agricultural at the rate of 50% to industrial agricultural economy.

The inclusive industrial evolution covering the whole region is supported by the industrialization projects which have been decided for accomplishment in the public sector.

It is intended that our economy in the course of coming years will reach the desirous objective in which the agricultural and industrial sectors will offer equal shares to the national revenue.

The agricultural sector will remain dominating over all sectors of the economic structure and will maintain this priority in lower rates in future years.

This is natural in respect of the Region economy characteristic of agriculture which become as backbone for the Region. Moreover it provides industry with the greater part of alimentary and other raws for production operation. It also represents 80% of our total exports abroad.

We have undertaken calculations for the distribution of increases in the national revenue on each of the economic sectors and we have arranged the economic sectors according to their order of importance in respect of the amounts presented to the national revenue in 1957. Table 2 plainly illustrates this point and from which we observe that the agricultural sector occupies the Apex, the commercial sector comes next followed by the industrial sector etc. It is not expected that this state will continue during the next ten years although the second, third, fourth Sector will remain occupying their present consecutive order. The services sector is the only sector which will surpass this order and will become the fourth at the end of the ten years, whilst the Lease Sector will become the fifth instead of the 4th in 1957.

The Agricultural Sector

It is shown in Table 2 that the rate of revenue of the agricultural sector will rise gradually in the course of 1959-1964 and similarly the amount by which the national revenue is fed of the agricultural sector. This rate will be approximately 48.9% at the end of 1964 of the total national revenue which we estimated at 2989.7 million pounds.

TABLE II

Distribution of Increase in the National Revenue on the Various Sectors of the Economic Sector

1957 - 1967 (In million Liras)

Year	Agricultural Sector		Commercial Sector		Industrial Sector		Lease Sector		Services Sector		Communication Sector		Government Sector		Building Sector	
	Income	Rate	Income	Rate	Income	Rate	Income	Rate	Income	Rate	Income	Rate	Income	Rate	Income	Rate
1957	1062.5	48.6%	260	13.2%	266	12.6%	134	6.1%	121.9	5.5%	106	4.9%	94.8	4.3%	60	2.7%
1958	712	39.9%	281.3	15.8%	271.3	15.2%	137.9	7.7%	76.6	4.3%	102.8	5.8%	96.7	5.4%	60.6	3.4%
1959	1120.9	49.0%	295.8	13%	279.3	12.2%	142	6.2%	128.6	5.6%	112.1	4.9%	98.9	4.3%	61.5	2.7%
1960	1173	46.1%	304.5	12.8%	289.9	12.1%	146.2	6.1%	143	6%	118.2	5.0%	101.6	4.3%	62.7	2.6%
1961	1224.6	49.2%	316.1	12.6%	303.2	12.1%	150.5	6%	159.2	6.4%	124.3	5.0%	104.2	4.1%	64.2	2.6%
1962	1302.6	49.2%	330.6	12.5%	319.2	12.1%	154.7	5.9%	178.1	6.7%	130.4	5.0%	108	4.1%	66.3	2.5%
1963	1378	49.3%	350.9	12.5%	340.4	12.1%	158.9	5.6%	201.4	7.2%	136.5	4.9%	112.3	4%	68.7	2.4%
1964	1462	48.9%	372.0	12.6%	367	12.3%	163.9	5.5%	228.6	7.6%	142.6	4.8%	117.4	3.9%	71.2	2.4%
1965	1555.5	48.6%	408.0	12.8%	399	12.5%	169	5.3%	259.2	8.1%	148.7	4.6%	123.2	3.8%	74.6	2.3%
1966	1646	47.9%	446.0	13.0%	436.2	12.7%	174.2	5%	293.8	8.5%	154.8	4.4%	130	3.7%	78.4	2.2%
1967	1742.5	47.4%	490.1	13.3%	478.8	13.0%	179.7	4.9%	337.1	9.1%	160.9	4.4%	137.5	3.7%	82.8	2.2%

Financial Sector		National Revenue	Percentage of National Revenue
Income	Rate	Income	
46.8	2.1%	2172	100%
45.4	2.5%	1784.6	100%
47.7	2.1%	2286.6	100%
49.0	2.0%	2387.9	100%
51.0	2.0%	2507.6	100%
53.3	2.0%	2643.2	100%
56.2	2.0%	2793.3	100%
60.0	2.0%	2989.9	100%
64.6	2.0%	3202.2	100%
70.2	2.0%	3443.2	100%
76.8	2.0%	3686.2	100%

It is expected that this conversion will be more apparent in the years following 1964. On the termination of 1967, which is the year in which the Economic Development Projects will be completely accomplished, it will be observed that the rate of income of the Agricultural Sector by which the national revenue is fed will come down until it reaches 47.4%, the amount of decrease is about 1.2% which is a good sign that the national economy will stand on well established foundation.

We have depended in our estimation for the national revenue coming from the agricultural sector on the area of lands to be reclaimed for irrigation in the course of the accomplishment of the major irrigation projects. The figures in hand indicate that no less than 825,000 hectares will be included to the area of irrigated lands which will all be ready for exploitation at the end of 1967.

We estimated that the proceeds per hectare annually will not be less than 800 pounds and therefore we arrive at the conclusion that the actual increase in the national revenue obtained from the agricultural sector will reach 680 million pounds approximately by the end of 1967.

Table 3 shows amounts of increases and decreases in the agricultural sector during the next 10 years. It will be seen that the revenue, at the end of 1957, reached 1062.5 million pounds.

The season of this year was comparatively good but the season of the following year was different as is considered as a bad season because the natural factors played a marked part in creating crisis of drought which affected the plantations of the region and thus caused reduction in the National Revenue. We have previously estimated the decrease in the proceeds of this sector which amounted to 350.5 million pounds, i.e. it dropped down until it reached 67% of the total income of the sector in 1957, i.e. that the percentage of decrease amounted to 33% compared with the total income of the agricultural sector for 1957.

This is the deplorable state of which the National Revenue suffers from dependence on agriculture relying on the mercy of rain.

The execution of the irrigation projects and reclamation of lands in pursuance of national planning in accordance with the development program will liberate cultivations from the risk of periodical dryness and deliver agricultural products and help in the expansion of the productive power.

This will, of course, result in stabilizing economy and augmenting the volume of national revenue and heightening the life level of people.

It will be observed in Table 3 that the national revenue for the agricultural sector will rise at the end of 1959 to reach 1120.9 million pounds, i.e. an increase of not less than 58.4 million pounds over the figure for 1957. If we compare this increase in the national revenue with the decrease occuring at the end of 1958, we will see that the national revenue for agriculture will actually increase by about 408.2 million pounds. This increase will regularly continue during the period for the accomplishment of projects.

On the termination of 1967, the national revenue arriving from the agriculture sector will amount to 1742.5 million pounds, realizing a general increase of 680 million pounds in the course of the ten years for development. This means that the percentage rose from 100% in 1957 to 164% at the end of 1967. The average yearly increase amounted to 61,8 million pounds, i.e. that the national revenue obtained from the agricultural sector had increased at an average annual rate of 5.8%.

The Commercial Sector

The National Revenue coming from the commercial sector occupied the second order next to the income of the agricultural sector as far as the amounts provided to the national revenue are concerned.

We have estimated the income of this sector at the end of 1957 at 290 million pounds, i.e. its share in the national revenue amounts to 13.2%.

It is hoped that the economic development will participate in the increase of income of this sector which will help in rising the rate of its share in the national revenue.

The creation of new communication road networks and repairing and widening the existing road networks will naturally lead to the expansion of the internal commercial exchange operation and will practically participate in facilitating the export operation abroad. It will likewise encourage for the expansion of the local market and will stimulate the international commerce, especially the transit commerce which constitute an important source to our economy.

There are also the major irrigation and electric projects and the five year project for industrialization which will all partake in expanding the national revenue for all economic sectors without exception, although this increase will differ from one to the other sector according to its direct or indirect relation to the local demands on commodities for consumption.

The agricultural and industrial projects will expand the volume of the agricultural and industrial productions. The money which will be expended in their development, consisting on wages of workers, salaries of technicians and administratives etc., will certainly strengthen the demanding local power, so as to ensure the purchase of commodities for consumption which will help in rising the level of the national revenue received from this sector. The expected increase in the commercial sector income may at the first glance, be comparatively small, but it is believed that at the end of the ten years for economic developments, this increase will equal to 69% as indicated in table 4 which is a reasonable increase as the progressive developments in the other sectors, especially in the agricultural and industrial sectors will absorb considerable amount of manpower and employ many of the services.

This natural phenomenon is expected as the commercial sector will proceed towards practical centralization which will help in keeping in existence the stronger commercial concerns, thus compelling other feeble concerns to withdraw from this sector.

The commercial sector will consequently be established on strong basis in the same way as the other economic sectors.

Table 4 indicates that the income of the commercial sector has, to a certain extent, been affected by the crisis of drought from which the agricultural sector sustained losses in 1958. As a consequence the income dropped from 290 million pounds at the end of 1957 to 281.3 million pounds at the end of 1958, although the rate of this reduction did not exceed 3%.

TABLE III

Increases in the National Revenue During Next 10 Years
Commercial Sector
Million Liras

Year	National Revenue	Annual Increase	Annual Decrease	Total Actual Increase	Percent on the Basis of 1957	Percent of Annual Increase	
						Amount	Per Cent
1957	290				100%		
1958	281.3		8.7		97%		
1959	295.8	5.8		5.8	102%		
1960	304.5	8.7		14.5	105%		
1961	316.1	11.6		26.1	109%	18.1	6.2%
1962	330.6	14.5		40.6	114%		
1963	350.9	20.3		60.9	121%		
1964	377	26.1		87	130%		
1965	408.9	31.9		118.9	141		
1966	446.6	37.7		156.6	154		
1967	490.1	43.5		200.1	169		

N/ B.

On the other hand it is noticed that the rate of this income rose at the end of this year reaching 15.8% as indicated in Table 2. This is the highest rate of increase in the national revenue for this sector during the next 10 years.

The total expected increase in the commercial sector following the economic development projects will reach 200.1 million pounds at the end of 1967 i.e. the rate of increase will be 69% which is a very feeble rate in comparison with the national revenue as it is not expected that this increase will exceed 0.1% of the total at the end of 1957.

The average increase in the national revenue for the commercial sector, during the years 1950-56 on the basis of our calculations, was approximately 5%.

It will be seen from Table 4 that the average increase will be little increased in the course of the next 10 years, i.e. it will be increased by only 1.2% over the amount preceding the execution of the development projects. This means that the percentage of the average increase per year will amount to 6.2% whereas the average annual increase will be 18.1% million pounds. This is a gratifying increase for this sector when we consider that this sector was, to a certain extent, affected by the bad season of 1958. The decrease was estimated at 8.7 million pounds, i.e. at the rate of 3%.

The bad season of the agricultural sector did not hinder its expansion as the increase in the national revenue regularly continued until it reached 5.8 million pounds in 1959 with an increase of 295.8 million pounds.

It is hoped that the commercial sector will proceed into centralization so that it is attain expanded increases by the end of 1967.

It is to be remarked that whilst the commercial sector provided an income of 13.2% to the national revenue at the end of 1957, it was reach a low rise at the end of 1967 amounting to 13.3%. This is evident in Table 2.

It is believed that this rate will come up in the future and the scope will be wider for this sector for providing the national revenue with more income.

The Industrial Sector

The industrial sector can be placed in the third order of merit among other economic projects as its income at the end of 1957 amounted to 226 million pounds, providing the national revenue with a rate of 12.6%.

This is a reasonable figure as our start for the political independence was also the start of the industrial epoch and was considered as the foundation of the industrial structure.

Despite this, we observe that the industrial development from the practical point of view was a slow and insignificant development if the transforming industries are to be excepted.

The average yearly increase in the industrial production since the dawn of independence amounted to 6% only which is not satisfactory with the requirements.

TABLE III

Increase in National Revenue During Next 10 Years Agricultural Sector
(Million Liras)

Year	National Revenue	Annual Increase	Annual Decrease	Total Actual Increase	Per Cent	Average yearly increase	
					1957 as basis	Amount	Per cent
1957	1062.5	100	—	—	100%		
1958	712	—	350. 5	—	67%		
1959	1120.9	58.4	—	58.4	105.5%		
1960	1173	52,1	—	110.5	110.4%		
1961	1234.6	61.6	—	172.5	116.2%		
1962	1302.6	69.1	—	241.2	122.6%	61.8	5.8%
1963	1378	74.3	—	315.5	129.7%		
1964	1462	84	—	399.5	137.6%		
1965	155.5	93.5	—	493	146.4%		
1966	1649	93.5	—	586.5	155.2%		
1967	1742.5	93.5	—	680	164%		

N/ B.

The nature of industrial development cannot be achieved unless certain conditions and other elements are available which were not in existence directly following independence. The volume of savings was insignificant and the negligence of the successive governments in forwarding investments to industrialization and eventually the loss of the necessary financing apparatus for prosecuting industrial developments especially in its early start. This omission has led to serious results detrimental to our social, intellectual and political evolution.

It is praiseworthy to mention that the unification of Syria with Egypt rendered valuable services to Syria which could keep pace with Egypt in the field of industrialization.

Many projects had been realized in an admirable way. The Five-Year Project for industrialization was devised on the basis of complementary economy between the two Regions and practically the necessary proceedings have been undertaken for executing its preliminary stages before the closure of this year.

It is self-explanatory that the industrial development, especially the Five-Year Project will have effective results in expanding the volume of production, increasing national revenue and heightening the level of livelihood.

The execution of this project will serve as an introduction for an epoch of light industry which will be followed by an epoch of heavy industry.

The total amount of funds ready for investment in the industrial sector as per the Five-Year Project is estimated at 485.5 million pounds. If we assume that the proportion of the capital to production is 3:1 and considering that the earlier years are years of expenditure, and subsequent years are those for production, it is convenient to calculate the annual increase in the national revenue and estimating the national revenue itself as shown in Table 5.

The Five-Year Project for the industrialization of the Syrian Region comprises establishment of essential local industries for lessening calls of foreign currency.

This is an excellent introduction as when we dispense with the importation of certain commodities which could be manufactured locally, substantial amounts of foreign currency could be saved for employment in the purchase of machinery and tools for construction of heavy industry, which expand the volume of general production in advancing countries and which practically partake in elevating the level of the individual income and the level of livelihood.

It will be gathered from the studies of the industrialization and major irrigation projects that the national revenue for this sector will be doubled within a period not exceeding 15 years.

Table 5 indicates that the average annual increase in the national revenue from this sector will reach 19.3 million pounds in the course of the next 10 years, i.e. the rate of the average annual increase during this period will be 7.2%. The industry sector will therefore have realized an increase in the rate of production higher than that of the previous year by 1.2%.

As a result the national revenue at the end of 1967 will reach 478.8 million pounds as the actual increase will be 212.8% million pounds.

TABLE 5

Increase in the National Revenue during the next 10 Years

Industrial Sector

(in Million Liras)

Year	National Revenue	Annual Increase	General Actual Increase	Per Cent based on 1957	Average Yearly Amount	Increase per cent
1957	266	—	—	100%		
1958	271.3	5.3	5.3	102%		
1959	279.3	8.0	13.3	105%		
1960	289.9	10.6	39.9	109%		
1961	303.2	13.3	37.2	114%		
1962	319.2	16.0	53.2	120%	19.3	7.2%
1963	340.4	21.2	74.4	128%		
1964	367	26.6	101.0	138%		
1965	399	32.0	133.0	150%		
1966	436.2	37.2	170.2	164%		
1967	478.8	42.6	212.8	180%		

N/ B.

In respect to the income of the industrial sector to the general national revenue, the increase will be insignificant at the end of the execution of the economic development projects.

It will be observed from Table 2 that the income of the industrial sector at the end of 1957 was approximately 266 million pounds equal to 12.6% only of the national revenue.

Other than the income from the agricultural and commercial sectors, the industrial sector has realized an increase in 1958 estimated at 2% as shown in Table 5. This increase has a powerful effect for rising the rate of its share in the national revenue.

On the other hand Table 2 shows the rate percent at which the industrial sector has fed the national revenue which, at the end of 1958, reached 15.2%.

This increase cannot be taken as basis because it was due to the reduction in the national revenue resulting from the agricultural sector.

It should be mentioned that although no new industries having been introduced in the industrial sector, certain expansions were effected in its industrial capacity.

It is to be remarked that the rate of in the national revenue collected from the industrial sector will increase in 1966 over the rate in 1957.

On the other hand, the industrial sector will realize a further increase in 1967. This period the agricultural sector is transformed to an agricultural, commercial and industrial sector.

Table 5 shows that the rate of increase at the end of 1967 is 4%. Whence the national revenue will equal to 478.8 million pounds in the agricultural sector, i.e. with an increase of 80%, in virtue of the development projects.

Lease sector

The income of this sector is composed of receipts collected from houses for habitation and other houses employed for residence and at the same time utilized as clinics, sewings and other professions.

The income of this sector constitutes 6% of the national revenue, i.e. the volume of this income amounted to 134 million pounds at the end of 1957.

On estimating the income of this sector during the next 10 years, we have taken as basis the average income of a residential unit 100 m2 in area. The annual rent of this unit is approximately 1000 pounds per year, i.e. the rent per square metre equals to ten pounds per year.

On the other hand we have taken the proceeds collected from the building sector as basis for our estimations for the annual national revenue. On the basis we have done our future calculations for increases and decreases in the national revenue obtained from the lease sector during the performance of the development projects.

It was essential to discover the average number of residential units per year during the next five years which amounted to 4000 residential units.

The annual increase in the national revenue coming from the lease sector will vary between 4-5.5 million pounds during the period 1957-67.

It will be seen from Table 6 that the average annual increase in the income of the lease sector will amount to about 4.1 million pounds during the next 10 years. This indicates that the rate of the annual increase will be 3.1% whereas it is seen that the actual increase will rise to about 45.7 million pounds in 1967 where the percentage of increase reaches 34.1%, i.e. that the national revenue received from the lease sector will rise during the next 10 years by one third of its volume at the end of 1957.

It is hoped that this income will reach 179.7 million pounds at the end of 1967. It is interesting to mention that the rate of this income to the national revenue will drop during the next 10 years. The lease sector fed the national revenue by not less than 6.1% in 1957 whereas this rate will be lowered in the next years to not more than 4.9% at the end of 1967, i.e. a decrease of 1.2% in the period of ten years.

For this reason the lease sector will become the fifth in the consecutive order of sectors. It was occupying the fourth order before the ten year Economic Developments in view of the value of income supplied to the national revenue.

Services Sector

It is hoped that the income of this sector will markedly increase in the course of the next 10 years in consequence of the material flourishing of the Region in consequence to achievements of the Economic Development Projects.

It is to be noted that the income of this sector is subject to the effects of the following three factors.

a. Reduced level of livelihood.

b. The petty volume of the individual income.

c. The general economic situation of the region.

All those three elements have direct effects on the level of income, whenever the income of individuals flourish, the level of living rises, also, if the purchasing power of the people is strong, the income of the sector comparatively increases and the rate of the income of the sector supplied to the national revenue will also go up.

We have adopted in our calculations for the volume of the services sector income, the compound rate for obtaining the general and annual increases.

To this rate, the element of the individual income was added and employed the year 1957 as basis.

The income of the individual in 1957 amounted to 511 pounds and 400 pounds in 1958. The general national revenue reached 2120 million pounds in 1957 and 1700 million pounds in 1958. The total income of the services sector at the end of 1957 amounted to 121.9 million pounds.

TABLE 6

Increases in the National Revenue during the next 10 Years

Lease Sector

(in Million Liras)

Year	National Revenue	Annual Increase	Total Actual Increase	Percentage on the basis of 1957	Average Annual Amount	Increase per cent
1957	134	—	—	100%	4.1	3.1%
1958	137.9	3.9	3.9	102.9%		
1959	142	4.1	8.1	106%		
1960	146.2	4.2	12.3	109.1%		
1961	150.5	4.3	16.6	112.3%		
1962	154.7	4.4	21.0	115.5%		
1963	158.9	4.5	25.5	118.6%		
1964	163.9	4.7	20.6	122.3%		
1965	169.0	4.8	15.0	126.1%		
1966	174.2	5.2	40.2	130%		
1967	179.7	5.5	45.7	134.1%		

N/ B.

We have adopted the following method in calculations for future years:

$$\frac{411}{511} \times \frac{1700}{2120} \times \frac{121.9}{1} = 76.6$$ the national revenue for the services sector at the end of 1958 or:

$$\frac{\text{Income of the individual in 1958}}{\text{Income of the individual in 1957}} \times \frac{\text{National Revenue for 1958}}{\text{National Revenue for 1957}} \times \frac{\text{Income of the Service sector in 1957}}{1} = \text{The national revenue for the service sector at the end of 1958.}$$

The income of the services sector at the end of 1958 was not better than in other sectors, but it was to the contrary as it was lower than many other sectors as it was considerably affected more than other incomes. The decrease was enormous as it amounted to 45.3 million pounds or at a rate of 37.2%.

Table 7 indicates this clearly.

The rate of income of this sector to the national revenue constituted 5.5% at the end of 1957 and became 4.3% at the end of 1958, i.e. a decrease of 1.2% in that year as the income was 76.6 million pounds whereas it was 121.9 million pounds in the preceding year.

It is hoped that the income of this sector will rise at the end of 1959 due to the economic developments in the Region.

According to our estimations, the income will increase by 6.8 million pounds, i.e. it will reach 128.6 million pounds at the end of 1959. This will also raise the rate of the income of this sector in the national revenue to 5.6% as shown in Table 2.

The income of this sector is distinguished of getting increased in consequence of the economic development projects. At the end of 1967 the rate of this increase will be 176.5%, i.e. with an average annual increase of 16%, which is a high rate not attained by any other sector. The general actual increases for this year will approximately be 215.2 million pounds, as the national revenue will be nearly 337.1 million pounds. The share of this sector in the national revenue will be nearly 9.1% i.e. realizing an increase of 3.6%. This increase has elevated the sector to the fourth order among the economic sectors during the ten years only.

It is expected that the income of this sector will get doubled between 1964-1965.

The Commercial Sector

It is recognized that the Syrian Region is an agricultural Region as agriculture represents 48.6% of the total national revenue. In other words the Region produces agricultural products which are in excess to its demands for consumption.

The surplus must therefore seek for world markets with the object of their exportation. On the other hand the geographical and strategic situation of the Region serves as a passage for the international commerce (transit) through Europe - Africa - Asia.

TABLE 7

Increase in the National Revenue during the next 10 Years

Services Sector

(in Million Liras)

Year	National Revenue	Yearly Increase	Yearly Decrease	General Actual Increase	Per cent on the basis of57	Average Yearly Amount	Increase Per cent
1957	121.9	—	—	—	100%		
1958	76.6	—	45.3	—	62.8%		
1959	128.6	6.8	—	6.8	105.5%		
1960	143.0	14.2	—	21.0	117.3%		
1961	159.2	16.3	—	37.3	130.6%		
1962	178.1	18.9	—	56.2	146.1%		
1963	201.4	23.3	—	79.5	165.2%		
1964	228.6	27.2	—	106.3	187.5%		
1965	259 2	30.6	—	137.3	212.6%		
1966	293.8	34.6	—	171.9	241.0%		
1967	337.1	43.9	—	215.2	276.5%		

For this reason Syria must be provided with an extensive communication network for connecting production centres with the ports of shipment which will serve as arteries through out the Syrian Region.

The Economic Development Projects which are running rapidly to accomplishment and the expansion of Latakia Wharf which is now complete and the wharf is ready to receive the international commerce (the transit) and the operations for the export of national products.

All these things will instigate us to accelerate the expansion of the communication networks which should be introduced in the vast production areas such as those of the Euphrates and El-Jezira.

The present networks of the communications are by far insufficient to cope with the future economic developments in the Region.

A quick glance will prove the weakness of the existing means of communications towards our economy.

The networks of communications in Syria are of three divisions, i.e. rail and land roads air lines and navigation lines.

The total length of railroad lines in the Syrian Region at the end of 1957 amounted to 858 kilometres, i.e. 4.6 km per 1000 km2 as compared with the area of the Region. This rate reached 161 km in Belgium and 100 km in England, which will indicate the weak capacity of our networks and would urge us to take immediate steps for remedying this lacking state of affairs.

The plans drawn up on the final studies for establishing a new rail net roads coping with our requirements, comprise the creation of a railroad for linking Kamishli with Latakia which will cut a distance of no less than 766.4 kms in the most fertile and productive zone in the Region. It was found that the average cost of one single km is estimated at 480,000 pounds.

The cost, according to the estimation of the Experts, will amount for 365 million pounds. It was found that the average cost of one single km is estimated 480,000 pounds.

Work will be accomplished in a period of 8 years, i.e. at the rate of 80 kms. per year. This includes all zones, Aleppo-Kamishli, Aleppo-Jisr El Choghour, and Jisr El-Choghour-Latakia.

Assuming that the proportion of the capital to production in the communication sector equals to 5.1, i.e. every 5 units of the capital will add to the national revenue a productive unit, it would be easy to estimate the increase which will take place in the national revenue as a result of the achievement of those projects.

It is probable that the execution of this project will be undertaken in the course of 1959-60, and we have already explained that the working costs will be 365 million pounds and will cover 8 years in achievement. This means that the annual increase in the national revenue for the sector of communications due to investments of this sum in railroads lines, will be 8.1 million pounds.

The second division refers to land roads, i.e. motor car roads. This is an essential partner with the railroads, especially as the Syrian Region greatly complains of the weak capacity of existing road networks, its narrowness and not being existing in populous areas.

The length of asphalted roads existing up to the end of 1957 is estimated at 3290 km and the total length of levelled roads amounted to 158.5 making a total of 5850 with the exception of roads suitable for foot-path in non-rainy seasons which are about 4860 kms. long.

It is expected that the project for the Five-Year Project for communication will make its appearance for the object of introducing a new asphalted-road networks for motor cars. This project will increase the present road networks by about 600-700 kms. The total length of all roads in the Syrian Region will become at the end of 1967 (6450 kms), the asphalted roads of which amount to 3890 kms.

The cost of one km of asphalted roads is 80 pounds, i.e. the cost of the 600 kms. which will be made as laid down in the Five-Year Project will amount to 48 million pounds. If 70 kms. could be made in one year, we will have 600 kms. ready new roads after 9 years. This means that the yearly increase in the national revenue following the establishment of these new roads for cars will amount to 1.2 pounds in addition to the 8.8 million pounds obtained from the railroads, i.e. the total increase in the national revenue from the land networks lines will reach 9.2 million pounds as from the date accomplishment of the project.

It is advantageous to refer to airlines in order to be aware of the real evolution which will take place during the next 10 years to keep pace with the economic development project.

The world news indicate that in the course of 1959-60, fundamental changes will take place in the World Airlines as, for the first time, jet planes will be employed for trips between Europe, America and Soviet Union.

Probably a long time may elapse before the jet planes are employed in the Middle East and in Asia which will leave sometime to us to prepare for the establishment of an aerodrome for the reception of the jet planes which will be the only aerodrome of its kind - with the exceptional of the International Aerodrome at Cairo at which all measures have been taken for the reception of jet planes.

If, therefore, we grasp this opportunity, the Syrian Region will take the place of the Lebanon Republic as far as tourism and economy aspects are concerned.

Table 8 shows that the National Revenue received from the Communications Sector amounted to 106 million pounds at the end of 1957 with the rate of 4.9% as indicated in Table 2. The latter rate rose to 5.8% in 1958, although the income of this sector dropped to 3% as it amounted to 102.8 million pounds.

The reason of the rise in the rate during one year from 4.9% to 5.8% is due to the fact that the rate of decrease in the income of this sector was the lowest rate as compared with the remaining economic sectors.

TABLE 8 (1)

Increases in the National Revenue during the next 10 Years

Communications Sector

(in Million Liras)

Year	National Revenue	Annual Increase	Annual Decrease	General Actual Increase	Rate Per Cent 1957 as basis	Average Yearly Amount	Increase Per Cent
1957	106	—	—	—	100%		
1958	102.8	—	3	—	97%		
1959	112.1	6.1		6.1	105.7%		
1960	118.2	6.1		12.2	111.5%		
1961	124.2	6.1		18.3	117.2%		
1962	130.4	6.1		24.4	123%	5	13.8%
1963	136.5	6.1		30.5	128.7%		
1964	142.6	6.1		36.6	134.5%		
1965	148.7	6.1		42.7	140.2%		
1966	154.8	6.1		48.8	146%		
1967	160.9	6.1		54.9	151.8%		

(1) Rate of Capital to Production = 5 : 1

N/ B.

It is expected that the income of this sector will recover its former volume and will get certain increase in the course of the next ten years. It is estimated that this increase will reach 5.9% at the end of 1959, i.e. with an increase of 6.1 million pounds.

The national revenue for this sector will amount to 112.1 million pounds.

Table 8 indicates that the average annual increase during the next 10 years will amount to 5 million pounds, the average rate being 13.8% per year. The increase of this sector at the end of 1967 will become 160.9 million pounds, in which case it would realize an increase of 54.9 million pounds. In other words this income will realise, during the conomic development projects, an increase at the rate of 54.9% i.e. it will be doubled in the course of 20 years only.

The Public Government Sector

The proceeds of the public administrations, municipalities and other Government Authorities constitute the most important sources to the national revenue obtained from the Public Government Sector.

In 1956, the share of the income of the Public Administration amounted to 70% of the total proceeds of the Sector, the municipalities 12.4% and the other Government Authorities 8%, whereas the proceeds of the Awkaf Province (Directorate) amounted to 3.2% only.

We have based our calculations for the expected increase on the average increase for the last prdceding years and which amounted to 2%. The figure was taken as basis for our calculations for the income received by the national revenue from this sector and which amounted to 94.8 million pounds at the end of 1957, i.e. making a rate of about 4.3% of the national revenue.

Table 9 shows that during the next ten years, the average annual increase will be 3.8 million pounds approximately, i.e. the national revenue will have a yearly increase at the rate of 4.1% which will help in augmenting the volume of income of this sector which will reach 137.5 million pounds at the end of 1967. If this is compared with that existing at the end of 1957, it will be observed that it rose to about 45.1%, i.e. it progressively increased.

Whilst it was 1.9 million pounds at the end of 1958, it will become 42.7 million pounds at the end of 1967. This is a summary of the actual increases which will be realized by this sector.

It is expected that the rate of the income of this sector to the national revenue will gradually decrease at the end of 1967 by about 3.7% as shown in Table 2, whereas it reached the maximum in 1958, reaching 5.4%. At the same time the rate of income of this sector to the national revenue increased by 2% which will help in increasing the volume of income provided by this sector to the national revenue.

It is to recognized that the income of this sector was slightly affected by the crisis of drought from which the Syrian Region suffered in 1958, incruing serious losses to the national revenue.

TABLE 9

Increases in the National Revenue during the next 10 Years

The Public Govrenment Sector (1)

(in Million Liras)

Year	National Revenue	Annual Increase	Total Actual Increase	Rate Per Cent 1957 as basis	Average Yearly Amount	Increase Per Cent
1957	94.8	—	—	100%		
1958	96.7	1.9	1.9	102%		
1959	98.9	2.2	4.3	104.3%		
1960	101.4	2.5	6.6	107%		
1961	104.5	3.6	9.7	110.2%	3.8	4.1%
1962	108	3.5	13.2	114%		
1963	112.3	4.3	7.5	118.5%		
1964	117.4	5.1	22.6	123.8%		
1965	123.2	5.8	28.4	130%		
1966	130	6.8	35.2	137.2%		
1967	137.5	7.5	42.7	145.1%		

(1) With the exception of the Ministry of National Defence.

N/ B.

Table 9 indicates that increases in the national revenue were regularly continue during the period of achievement of the big economic projects during the next 10 years, which means that the income of the Public Government Sector will be doubled in a period not exceeding 20 years.

Building Sector

The Building Sector received a large share of the total volume of investments. It has taken the greatest amounts of money invested in the private sector. In other words the rate of investments in this sector during previous years reached 45% of the total private investments in the agricultural, industrial, and transport sectors.

The national revenue obtained from this sector comes in the penultimate order in respect of the amounts supplied by this sector to the national revenue. The rate, at the end of 1957, was 2.7% and the income was estimated at 60 million pounds. Changes in the tendency for investments in buildings manifested itself during the period following 1957 as private individuals have given up the idea of investing their money in the Building Sector especially as new fields have been opened for more profitable projects.

Nevertheless, this does not follow that the increase in the income of this sector shall be suspended as it will be observed from our estimations, as indicated in Table 10, that the increase during the ten years period for the economic development will reach 38% and that the annual average increase will be 2.1 million pounds giving an approximately rate of 3.4% i.e. that the increase of this sector at the end of 1967 will be 22.8 million pounds and the total income 82.8 pounds approximately.

Table 10 shows also that this increase which has expanded the volume of the national revenue for this sector and which is estimated at 38% will have no worthy effect on the general national revenue as the total income of this sector supplied to the national revenue in the course and subsequent to the achievement of the development projects will be visibly reduced as will be shown in Table 2. This rate will drop until it becomes 2.2% at the end of 1967, i.e. the rate of this reduction will amount to 0.5% in the course of the ten years.

The Financial Sector

This sector is formed of Banks, private bankers and insurance companies. Although its volume of income is small it will play an important part, as it is expected that its elements will flourish to keep pace with the conomic evolution in the Region in response to the results of the Development Projects and the increase in the income of private individuals and in the volume of the national revenue.

Bank and insurance companies are still on the start of their evolution. It is on the way of immediate evolutions that would enable them to expand their works and spread throughout the Region.

We have estimated the income of this sector at the end of 1957 at about 46.8 million pounds as shown in Table 11. This sector has supplied the national revenue by an income at the rate of 2.1% but it dropped in 1958 because it was indirectly affected by the relapse which attacked the economy of the Region. Its share in this reduction amounted 3%, i.e. the loss due to this crisis of dryness was estimated at 1.4 million pounds.

TABLE 10 (1)

Increases in the National Revenue during the next 10 Years

The Building Sector

(in Million Liras)

Year	National Revenue	Annual Increase	Total Annual Increase	Rate Per Cent 1957 as basis	Average Annual Amount	Increase Rate
1957	60	—	—	100%		
1958	60.6	0.6	0.6	101%		
1959	61.5	0.9	1.5	102.5%		
1960	62.7	1.2	2.7	104.5%		
1961	64.2	1.5	4.2	107%		
1962	66.3	2.1	6.3	110.5%	2.1	3.4%
1963	68.7	2.4	8.7	114.5%		
1964	71.2	2.5	11.2	118.8%		
1965	74.6	3.4	14.6	124.4%		
1966	78.4	4.0	18.4	130%		
1967	82.8	4.4	22.8	138%		

(1) Constructions of the Ministry of the National Defence excepted.

N/ B.

Inspite of this decrease, its share in the national revenue rose to 2.5% as compared with 2.1% for the proceding year as explained in Table 12, i.e. that the rate has actually risen by 0.4.

It is expected that this sector will regain its activities anew by the year 1959 as the increase will reach 2% at the end of the year. This means that it will realise a weak increase of 0.5 million pounds, making a total income of 47.7 million pounds.

At the same time Table 2 shows that the rate of income supplied by this sector to the national revenue will again drop to 2.1%,i.e. less than the proceding year by 0.4%.

During the period 1959-1967, the rate of increase due to economic evolution and execution of development projects will regularly increase from 2% to reach 64% by the end of 1967, i.e. the income of this sector will be doubled within a period not exceeding 15 years in conforming with the progressive increase which will be added to the volume of the national revenue during the course of achievements of the development projects.

It will be seen from Table 11 that the average yearly increase in the National Revenue for this Sector will amount to 2.7 million pounds and that the average yearly percentage will be in the limits of 5.8%.

At the end of 1967, the income of this sector will reach 76.8 million pounds when the general actual increase will rise to about 30 million pounds.

In respect to its relation to the national revenue, the rate of its share for increasing its volume will be lowered to 2% as from 1960 and will maintain this decrease until the end of 1967.

Effects of Development Policy on the level of consumption and living

Researches into the matter of evolution in increases in the national revenue during a limited period requires a further study concerning increases in the population and level of prices in the Region.

This will enable us to determine the extent which the Region will attain in the field of development to ascertain the results obtained from the development projects.

In other words our knowledge of this study will decide as to whether these Economic Development Projects have actually executed the realization of the required objectives for which it was laid down. That is to say that the projects have attained good results towards the increase in the volume of the National Revenue and the elevation of the level of livelihood.

It is decided that the National revenue will be increased from 1182 million pounds at the end of 1957 to 3686.2 million pounds at the end of 1967, i.e. will obtain an increase of 1504.2 pounds in consequence to the achievement of the development projects.

TABLE 12

Increases in the National Revenue during next 10 Years

Financial Sector

(in Million Liras)

Year	National Revenue	Yearly Increase	Yearly Decrease	General Actual Increase	Rate per Cent 1957 as basis	Average Annual Amount	Increase per cent
1957	46.8	—		—	100%		
1958	45.4	—	1.4	—	97%		
1959	47.7	9		9	102%		
1960	49	1.3		2.2	105%		
1961	51	2		4.2	109%		
1962	53.3	2.3		6.5	114	2.7	58%
1963	56.2	2.9		9.4	120%		
1964	60	3.8		13.2	128%		
1965	64.6	4.6		17.8	138%		
1966	70.2	5.6		23.4	150%		
1967	76.8	6.6		30	194% 164%		

W/ B.

TABLE 12

Increases in National Revenue and Consumption during next 10 Years

(in Million Liras)

Year	National Revenue	Consumption	Individual's Income	Individual's Consumption
1957	2182	1899	526	458
1958	1784.6	1547	420	364
1959	2286	1982	525	455
1960	2387.9	2051	535	459
1961	2507.6	2146	546	471
1962	2643.2	2252	561	482
1963	2793.3	2365	578	492
1964	2989.7	2521	607	515
1965	3202.2	2625	634	532
1966	3443.2	2879	662	555
1967	3686.2	3060	695	577

N/ B.

Does this mean that this increase will lead to expansion in the income of the individual?

We believe that the population of the region will get doubled at about the year 1990 and will rise the National Revenue to a twofold in a period of fifteen years, i.e. in 1972 and that the Government will concentrate its efforts in the interests of the majority of the population.

The primary step to start with is to maintain prices by suitable means. We shall therefore be in a position to reply to the above query and say that the results of developments were advantageous as it results to public interests and practical increases in the income of the individual.

It will be seen from Table 12 that the income of the individual in the Region will rise at the end of the Economic Development programs by 32% over the rate in 1957. At the same time the level of consumption for the individual will rise at the rate of 26%. This increase in the actual revenue and not in the level of the ordinary consumption will determine the extent of the level of livelihood which the population has attained.

The prime object of the living level is the increase which will occur to the income of the individual which they can employ in the purchase of articles for consumption and other services, which help in elevating their standard of life without any changes in the level of prices.

It is therefore of the greatest importance that whenever we measure this increase in the income, we have also to take into consideration the level of the current prices. If the income of the individual rises by 10% during a certain period and the price of commodities which is desirous to purchase rise simultaneously. This increase will not be counted to have actually realized any practical increase.

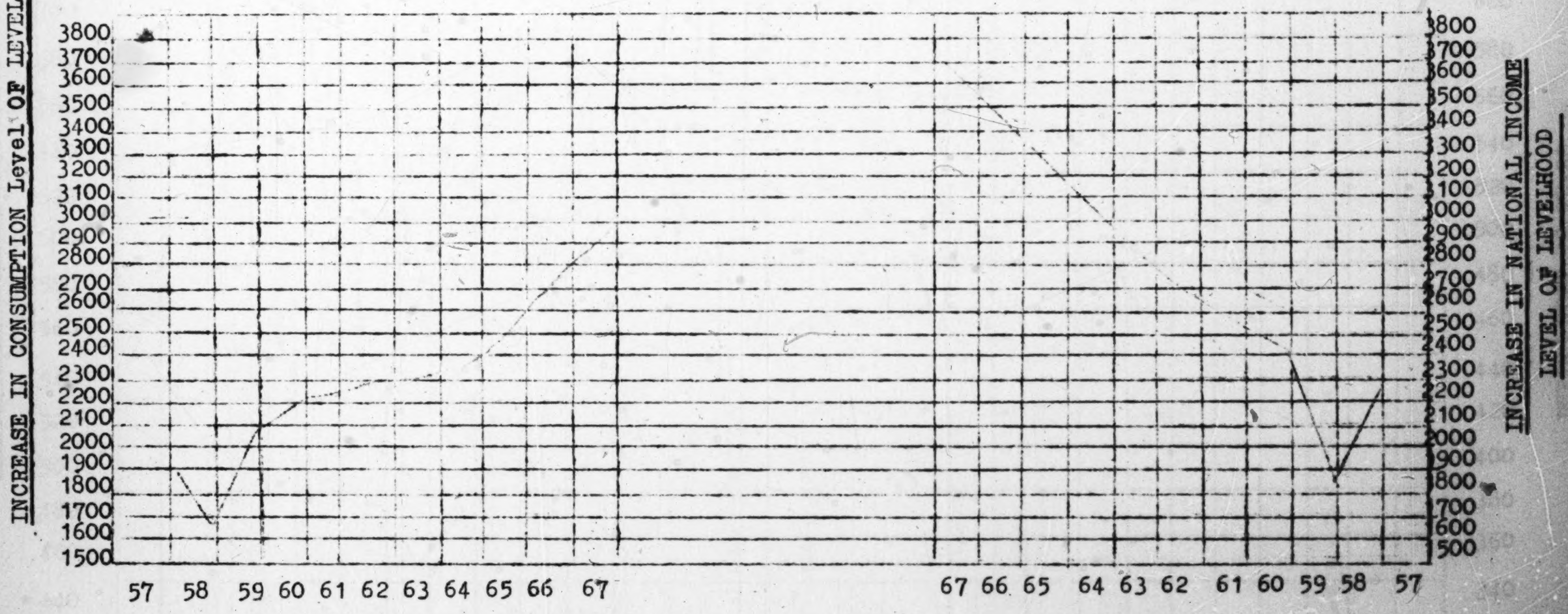
On the other hand if the price of commodities for consumption down and the income of the individual did not receive any increase, the level of livelihood will rise in this case as the consumer will be able to obtain his requirement at reduced prices.

It is evident that the operation for the accomplishment of the Development Projects will evolve the economic situation in the Syrian Region which will lead to economic flourishing doubling the national revenue in the course of 15 years. Demands on productive and articles for consumption will also be increased. This will develop the mentality of people and will stimulate the spirit of ambition for heightening and ameliorating the existing level of livelihood.

Diagrams 1 and 2 illustrate the extent at which the level of livelihood will reach as a result of the execution of the Economic Projects.

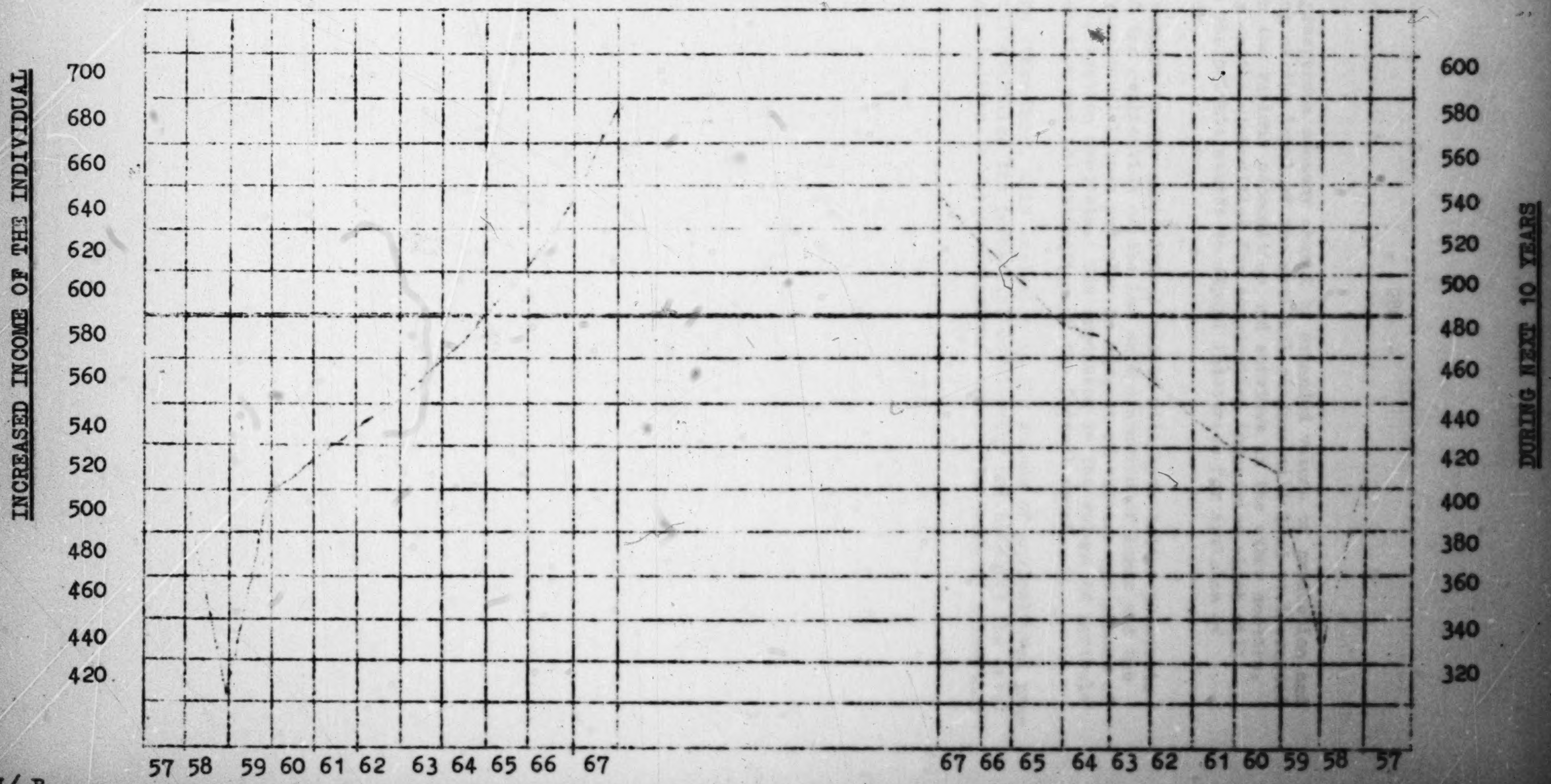
The increase in the National Revenue and the exploitation of the idle manpower will create a new atmosphere of energy and intelligence.

Effects of the Development on National Revenue and level of consumption (in million S.P.)



N/ B.

Effects of Development Projects on the Income of the individual



N/ P.

The prosperous economy caused by expanded volume of production and heightening of the level of the national revenue will lead to increased demands on the various commodities and services in the other sectors, especially on the commodities for consumption industries which will encourage the private sector to expand industries for articles of consumtpion.

The workers in the agricultural sector will have better prospects in view of the application of the Law on Reclamation of lands and the Law on Agricultural Labour and also in respect of the accomplishment of the major irrigation projects. The expansion in the volume of agricultural production and the extinction of the federal epoch.

On the other hand, this expansion in the volume of agricultural production will stabilize the industrial development and heighten the level of industrialization to which agriculture offers its needs of alimentary raws.

Costs of Economic Development Projects

Name of Project	1958/1959 Full Credit	1958/1959 Foreign Credit	1959/1960 Full Credit	1959/1960 Foreign Credit
Administrative Expenses	1.5		1.5	
Technical & Vocational Training	1		2	
Agricultural, Irrigation & electric Hydraulic Power				
Euphrates Basin	2	1	3	1
Khabbor "	1.8	0.8	16.1	0.1
El Ghab-Asharné	30	5	35	8
El Asi-High Basin	1	0.5	4	0.4
Electrification of El Asi	1	0.5	9	6
Nehr el Kebir Basin	0.5	—	6	3
El Roog	2	—	2	—
El Sen Basin	2	—	2	—
Barada Basin	0.5	—	2	0.9
El Awag-Banias Basin	--	—	--	--
Yarmook Basin	1	0.5	4	2
Dams & digging wells & Forage stores	1.5	1	5	3
Agricultural Laboratory	1	0.5	1	1
Forestation	--	--	--	--
Study & execution of dams & other works	--	—	1	--
Communication Projects				
Railroads & complementary works & stores for crops	2	1	10	5
Aerodrome	--	--	5	--
Bridges	2	--	5	2
New Public Roads	2	--	16	--
The Geological Map for exploration after Petroleum, minerals and other topographical works, etc.	8	5	9	6
Tourism and Summer resorts	3	--	3	--
Industrialization				
Syria Industrial Bank & Chemical Laboratories	8	—	8	5
Petroleum refinery, tanks & invested capital	8	--	8	--
Anti-flood Project for Homs	1	—	1.5	--
Loan Interests				
Interests of foreign loans (during program)	--	—	2	--
Interests of internal loans				
Total	80.8	15.8	161.1	43.4

cts in Million Liras

	1960/1961		1961/1962		1962/1963		1963/1964	
gn t	Full Credit	Foreign Credit	Full Credit	Foreign Credit	Full Credit	Foreign Credit	Full Credit	Foreign Credit
	1.5		1.5		1.5		1.5	
	2		1.5		1.5		1	
	140	55	140	65	180	65	200	45
	20.1	0.1	15	--	12	--	10	--
	25	5	10	5	--	--	--	--
	5	0.1	5	--	3	--	2	--
	9	6	6	2.5	3	--	--	--
	6	4	4	1	2.5	--	1	--
	--	--	--	--	--	--	--	--
	2	--	2	--	--	--	--	--
	3	0.1	4.5	5	--	--	--	--
	1	--	1	1	--	--	--	--
	3	0.5	--	--	--	--	--	--
	5.5	2	5	2	4	1	4	--
	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
	1	--	1	--	1	--	1	--
	40	30	48	30	50	33	50	33
	15	--	15	--	15	--	--	--
	4	1	4	--	--	--	--	--
	8	--	8	--	8	--	8	--
	8	5	5	3	--	--	--	--
	3	--	3	--	3	--	3	--
	12	10	6	4	6	4	11	7
	16	--	11	--	12	--	6	--
	--	--	--	--	--	--	--	--
	5	--	7.5	--	10.5	--	12.2	--
	335.1	118.8	3.40	118.5	313.0	103	310.7	85

Costs of Economic Development Projects

Name of Project	1964/1965 Full Credit	1964/1965 Foreign	1965/1966 Full Credit	1965/1966 Foreign	1966/1 Full Credit
Administrative Expenses	1.5		1.5		1.5
Technical & Vocational Training	1		--		--
Agricultural, Irrigation & eletric Hydraulic Power					
Euphrates Basin	200	18	100	--	90
Khabbor "	--	--	--	--	--
El Ghab-Asharné	--	--	--	--	--
El Asi-High Basin	--	--	--	--	--
Electrification of El Asi	--	--	--	--	--
Nehr el Kebir Basin	--	--	--	--	--
El Roog	--	--	--	--	--
El Sen Basin	--	--	--	--	--
Barada Basin	--	--	--	--	--
El Awag-Banias Basin	--	--	--	--	--
Yarmook Basin	--	--	--	--	--
Dams & digging wells & Forage stores	4	--	--	--	--
Agricultural Laboratories	--	--	--	--	--
Forestation	--	--	--	--	1
Study & execution of Dams & other works	--	--	--	--	--
Communication Projects					
Railroads and complementary works & stores for crops	50	33	--	--	--
Aerodrome	--	--	--	--	--
Bridges	--	--	--	--	--
New Public Roads	--	--	--	--	--
The Geological Map for exploration after Petroleum, minerals & other topographical works, etc.					
Tourism and Summer resorts	3	--	3	--	3
Industrialization					
Syria Industrial Bank & Chemical Laboratories	9	6	--	--	--
Petroleum Refinery, tanks & invested capital	6	--	3	--	--
Anti-flood Project for Homs	--	--	--	--	--
Loan Interests					
Interests of foreign loans (during Program)	13	--	12.2	--	11
Interests of internal loans	--	--	5	--	5
Total	287.5	57	124.7	--	111.5

N/ B.

c Development Projects in Million Liras

1965/1966		1966/1967		1967/1968		TOTAL	
Full Credit	Foreign	Full Credit	Foreign	Full Credit	Foreign	General Total	Total foreign Credits
1.5		1.5		1.5		15	--
--		--		--		10	--
100	--	90	--	85	--	1140	250
--	--	--	--	--	--	75	1
--	--	--	--	--	--	100	23
--	--	--	--	--	--	20	1
--	--	--	--	--	--	28	15
--	--	--	--	--	--	20	8
--	--	--	--	--	--	4	--
--	--	--	--	--	--	8	--
--	--	--	--	--	--	15	1
--	--	--	--	--	--	4	--
--	--	--	--	--	--	8	3
--	--	--	--	--	--	29	9
--	--	--	--	--	--	2	1.5
--	--	1	--	--	--	1	--
--	--	--	--	--	--	5	--
--	--	--	--	--	--	250	165
--	--	--	--	--	--	50	--
--	--	--	--	--	--	15	3
--	--	--	--	--	--	50	--
						30	19
3	--	3	--	3	--	30	--
--	--	--	--	--	--	60	36
3	--	--	--	--	--	70	--
--	--	--	--	--	--	2.5	--
12.2	--	11	--	10	--	83.4	83.4
5	--	5	--	5	--	15	--
124.7	--	111.5	--	104.5	--	+ 2139.9 46.1 2186.0	+ 618.9 46.1 665.0

The Government's duty in respect of economic and social guidance

The Government should take steps in respect of social and economic problems and will not stand as a spectator.

The achievement of the development projects will create new circumstances which will serve as an industrial wealth that would call for reconsideration of the prevailing standards of life.

The Government must interfere in solving the cisting social economic problems from a humitarian aspect in order to realize public interests and defend the weak and to offer to the poor better chances. The worker and the farmer will this be protected from greedy exploitation.

The Government is the sole Authority who is empowered to solve the various problems of the Society, either economic, cultural, sanitary, legislative and executive. It is therefore its duty to spread social equitty throughout the Region.

It is evident that there is strong dissimilarity in the income of the individuals and that there is a variable purchasing power in one society. The Government should eliminate as far as possible this difference by imposing progressive taxation in order to widen the scope of free services to the people, that steps should be undertaken by the Government to realize the just distribution of the national revenue on our compatriots. By this way, it would be possible to transfer a portion of the income of the rich to the income of the poor. This is a practical positive step for realizing and spreading equitty amongst all numbers of the people.

The Society is in pressing need for extra funds from the Government to be expended on social services in order to enable those of medium and lower incomes to obtain benefits enjoyed by those of higher incomes. This is one of the practical methods which could be employed in re-distributing incomes on equitable basis and would help in increasing the income of the poor and provide him with facilities for increasing his purchasing power, especially of commodities for consumption produced locally of commodities for consumption produced locally, provided that prices shall be maintained.

In this respect we have to discuss the problem of prices as it considerably affect the level of livelihood.

We are of the opinion that if the Government leaves during the period of development, the standard of prices under the consequences of supply and demand, it will go up especially in respect of commodities for consumers for which demands will be excessive due to re-distribution of the national revenue. This means that the poor will remain poor.

The control of prices is rather a difficult business and it may create dissatisfaction of certain categories of people. The only alternative for the Government to adopt is to expand the production of commodities for which greater demands are made to, due to increasing income following the execution of development projects and reducing production of commodities for which demands are little. This is a practical prime step of limiting prices and controlling its apparatus.

Our economy is directed according to an outlined plan by which the State organizes and deals with the social and economic problems in such a way as to realize public interest to all numbers of the Society. The Government has the choice for selection of industries expansion or decrease in production according to the exigencies of the plan outlined for directing public economy for the object of realizing the balance of consumption and production. This will lead to our economy stepping rapidly to regular development and accelerating advancement.

The adoption of economic balancing is of vital importance for our existing economic evolution which will realize industrial development which will keep pace with the agricultural development.

This needs great efforts to accelerate the achievement of the industrialization operation in order to take the first step for putting an end to the detriments of unjust distribution of the national revenue among the various economic sectors.

It is to be noted that the economic development projects in general and the irrigation projects in general are government projects which have no relationship with the private sector and participation of individuals therein.

This means that the private sector will devote its power in investments, in industries for consumption. That is to say that whilst the public sector is undertaking investments and developing productive capitals, we find that the private sector is proceding in increasing production of articles of consumption.

The balancing and good selection of investment and distribution thereof is a question of vital importance for maintaining the general economic balance.

For this reason, the Government should adopt a policy for restricted consumption during an appointed period, to be fixed in pursuance of our political and social situation.

On the other hand, it is to be observed that the increase in the income of the private individuals following the restricted policy, the production of the consumption commodities - i.e. investments of the private sector - will become as tide and flour.

The government will therefore interfere for limiting rates of investment in the consumption sector to conform with public interests.

The proper directing of private savings has valuable consequences and therefore we suggest that co-operative investment organizations be instituted under the Government supervision for keeping all savings of the people and directing some towards the consumption sector for securing a reasonable profit to the organization and the owners of the savings at rates fixed by the Government to put an end to excessive profiteering and illegal profits.

Methods and Ways of Financing Ec
Proceeds of the Economic Projec

ticle	Name of Project	1958/59	1959/60	1960/61	1961/62	1962/63	1963/6
	Irrigation						
1	Euphrates	--	--	--	--	--	--
2	El Khabbor	--	--	--	--	--	--
3	El Ghab	--	--	20	20	20	20
4	El Asi Basin	--	--	--	--	--	--
5	El Roog	--	--	1.5	1.5	1.5	1.5
6	Mezereeb	--	--	--	0.4	0.5	0.5
7	El Sen	--	--	--	2	2	2
8	Barada	--	--	--	--	--	--
9	Nehr el Kebir	--	--	--	--	--	--
	Electricity						
1	El Asi	--	--	--	--	--	2.
2	Mezereeb	--	--	--	--	1	1.
3	Nehr el Kebir	--	--	--	--	--	--
4	The Euphrates	--	--	--	--	--	--
	Communications						
1	New Lines	--	--	--	--	--	20
	Industries						
1	Homs Refinery	--	--	2.5	25	25	25
2	Azote Factory	--	--	--	2	2	2
3	Other Factories	--	--	--	--	--	1
	Petroleum & Minerals	--	--	25	5	7.5	15
	Other Proceeds	--	--	--	--	0.6	0
		--	--	49	55.9	60.1	91

ays of Financing Economic Development
he Economic Project During Program

1962/63	1963/64	1964/65	1965/66	1966/67	1967/68	Total	1968/69	69/70
--	--	90	90	180	180	540	180	180
--	--	12	12	12	12	48	12	12
20	20	20	20	20	20	160	20	20
--	--	2	2	2	2	8	2	2
1.5	1.5	1.5	1.5	1.5	1.5	12	1.5	1.5
0.5	0.5	0.5	0.5	0.5	0.5	3.4	0.5	0.5
2	2	2	2	2	2	14	2	2
--	--	1.5	1.5	1.5	1.5	6	1.5	1.5
--	--	1	1	1	1	4	1	1
--	2.5	2.5	5	5	5	20	5	5
1	1.0	1.0	1.0	1.0	1.0	6	1	1
--	--	1	1	1	1	4	1	1
--	--	--	20	25	25	70	35	35
--	20	20	20	20	20	100	35	40
25	25	25	25	25	25	200	25	25
2	2	2	2	2	2	14	2	2
--	1	1	1	2	2	7	3	3
7.5	15	15	15	20	20	100	20	20
0.6	0.6	0.6	0.6	0.6	0.6	3.6	1	1
60.1	91.1	198.6	221.1	322.1	322.1	1320	348.5	353.5

Article	Name of Project	1970/71	1971/72	1972/73	1973/74	197
	Irrigation					
1	Euphrates	180	180	180	180	9
2	El Khabbor	12	12	12	12	–
3	El Ghab	--	--	--	--	–
4	El Asi Basin	2	2	2	2	–
5	El Roog	--	--	--	--	–
6	Mezereeb	0.5	--	--	--	–
7	El Sen	2	--	--	--	–
8	Barada	1.5	1.5	1.5	1.5	–
9	Nehr el Kebir	1	1	1	1	–
	Electricity					
1	El Asi	5	5	5	5	
2	Mezereeb	1	1	1	1	
3	Nehr el Kebir	1	1	1	1	
4	The Euphrates	36	35	35	35	
	Communications					
1	New Lines	40	40	40	40	
	Industries					
1	Homs Refinery	25	25	25	25	
	Azote Factory	2	2	2	2	
	Other Factories	3	3	3	3	
	Petroleum and Mineral	20	20	20	20	
	Other proceeds	1	1	1	1	
		333	329.5	329.5	329.5	

N/ B.

1974/75	1975/76	1976/77	1977/78	Total	Total
90	90	--	--	1260	1800
--	--	--	--	72	120
--	--	--	--	40	200
--	--	--	--	12	20
--	--	--	--	3	15
--	--	--	--	1.5	4.9
--	--	--	--	6	20
--	--	--	--	9	15
--	--	--	--	6	10
5	5	5	5	50	70
1	1	1	1	10	16
1	1	1	1	10	14
35	35	35	35	350	420
40	40	40	40	400	500
25	25	25	25	250	450
2	2	2	2	20	34
3	3	3	3	29	36
20	20	20	20	200	300
1	1	1	1	10	13.6
323	223	133	133	2738.5	4058.5

Financing the Pr

Year	Full Cost Including Interests of Loans		Foreign Credit		Internal Expenditures including interests of loans		Settlem instal
1958/59	80.8	-	15.8	=	65	+	
1959/60	161.1	-	43.4	=	117.7	+	
1960/61	335.1	-	118.8	=	216.3	+	
1961/62	304	-	112.5	=	191.5	+	1.
1962/63	311	-	103	=	216	+	8
1963/64	311.7	-	85	=	226.7	+	9
1964/65	287.5	-	57	=	230.5	+	10
1965/66	124.7	-	0	=	124.7	+	45
1966/67	111.5	-	0	=	111.5	+	45
1967/68	104.5	-	0	=	104.5	+	44
Total	2131.9		535.5		1604.4		165

Expenditure and Revenue of r

	1968/69	1969/70	1970/71	1971/72	1972/73	19
Proceeds of accomplished projects during first ten years.	352.5	353.5	332	329.5	329.5	
Balance of Loan instalments and interests.	45.2	45.2	45.2	45.2	45.2	
Remainder - Proceeds for financing new Program without participation from the General State Budget.	307 3	308.3	286.8	284.3	284.3	

Progran

lement of talments		Total Expenditures		Proceeds of Projects		Expenditure to be settled	Other Means for financing
0	=	65	=	0	=	65	65
0	=	117.7	=	0	=	117.7	117.7
0	=	216.3	=	49	=	167.3	167.3
1.8	=	193.3	=	55.9	=	137.4	137.4
8.2	=	224.2	=	60.1	=	164.1	164.1
9	=	235.7	=	91.1	=	144.6	144.6
10.9	=	241.4	=	198.6	=	42.8	42.8
45.5	=	170.2	=	221.1	=	50.9	
45	=	156.5	=	322.1	=	165.6	
44.6	=	149.1	=	322.1	=	173	
65		1769.4		1320.0			

next Following Years

1973/74	1974/75	1975/76	1976/77	1977/78	Total
329.5	223	233	133	133	2738.5
43.7	36.9	36.1	34.6	---	377.3
285.8	186.1	196.9	98.4	133	2361.2

Proceeds of Forei

Article	Name of Project	1958/59	1959/60	1960/61	1961/62	1962/6
1	Estimated Proceeds for foreign loans	15.8	43.4	118.8	112.5	103

Other Means of Fi

	Other means of Financing					
1	Annual Participation of General Budget	65	117. 7	167.3	137.4	164
2	Proceeds of internal loans					
3	Amotization in the limits at 3%					
4	Loans on signed Bonds					

General Table for Means o
Development Progr

1	Proceeds of Development Projects.	--	--	49	55.9	60.
2	Proceeds of Foreign loans	15.8	43.4	118.8	112.5	103
3	Other means for Financing	65	117.7	167.3	137.4	164
	Total General	80.8	161.1	335.1	305.8	

oans

Art	1963/64	1964/65	1965/66	1966/67	1967/68	Total
	85	57	--	--	--	535.5

ing

	144.6	42.8	--	--	--	838.9

nancing

	91.1	198.6	221.1	322.1	322.1	1320
	85	57	--	--	--	535.5
	144.6	42.8	--	--	--	838.9
	320.7	298.4	221.1	322.1	322.1	

Settlement of Loan Instalments during the Course o
(in Million Liras)

cle	Name of Project	1958/59	1959/60	1960/61	1961/62	196
	Settlement of Loan Instalments					
1	Instalments of Foreign Loans	--	--	--	1.8	8
2	Reserve for settlement of Loans	--	--	--	--	_
	Total	--	--	--	1.8	8

General Expenditures of Development Program and Set
(in Million Liras)

1	Expenditures of Development Projects.	80.8	161.1	335.1	304	319
2	Reserve for Settlement of interests of foreign loans after 1967/68.	--	--	--	--	-
3	Settlement of foreign loans	--	--	--	1.8	8
	Total	80.8	161.1	335.1	305.8	327

N/ B.

during the Course of Execution of the Program
in Million Liras)

61	1961/62	1962/63	1963/64	1964/65	1965/66	1966/67	1967/68	Total
	1.8	8.2	9	10.9	45.5	45	44.6	165
	--	--	-	--	41.3	145.6	156.5	343.4
	1.8	8.2	9	10.9	86.8	190.6	201.1	508.4

ent Program and Settlement of Loans
on Liras)

304	319	311.7	287.5	124.7	111.5	104.5	2139.9
--	--	--	--	9.6	20	16.5	46.1
1.8	8.2	9.0	10.9	86.8	190.6	201.1	508.4
305.8	327.2	320.7	298.4	221.1	322.1	322.1	2694.4

Table for Production and Yields

The table for production and yields represents a general frame for the national production and is an essentiality for economic planning,

Any attempt for estimation of the material value in the national economy must seek the aid of this frame and the knowledge of its limits.

This knowledge will extend our capacity for the exploitation of the hidden natural resources and will guide us to the successful methods to be adopted in this capacity.

Furthermore it will help those entrusted with the national planning to have full particulars and authrntic data which facilitate the work for analysing the various factors of the national economy and the study of the reciprocal relationship throughout the economic sectors and finally laying down an economic planning having clear features, linked parts and harmonious objectives.

The actual advantage of this table in the first stage is to discover the real factors and elements connected with the industrial relations which will lead to search and explore for the natural resources which could be utilized during the development and evolution of the national economy.

It was therefore found essential to study this table and to know its frame. There are three factors which can be considered as dominating over its economic frame.

I. Quantities of Stored Production

Quantities of stored production must be excepted of the table on production and yields. This exception will not affect the volume of demands. The contents of the table will help in analyzing the general economic balance within a short time.

II. Change of the Economic Structure

In case of change in the relations between factors and articles for production this must be investigated on the light of the new relations.

III. Technical and Moral Changes

Whereas changes in the production components or evolution in the comparative rates of public economy are permitted, we would have analysed the national economy in the form of constant evolution or dynamic, as this change in quality will impose new relations in the frame of internal economic units which entails re-organizing the public economy frame and the balancing of the economic relations connected together and especially organizing the commerce in its two parts, i.e. internal and external.

An attempt to estimate production and yield for 1957.

Production of Agricultural Crops

Cereal Grains	Production per 1000 tons	Imports tons	Exports tons	Net quantities of cereal grains within the Region
Wheat	1354.0	1	352,807	1001,194
Barley	721.0	-	331,416	389,584
Maize	15.0	-	-	15,000
Rice	2.0	23,158	-	23,158
Millet	51.0	-	13,131	64,131
Oats	6.6	-	-	6,600
Pulses				
Lentils	77.2	-	38,215	38,985
Peas	0.2	-	-	200
Beans	10.2	-	-	10,200
Kidney peas	0.8	-	-	800
Vetch	55.0	-	-	55,000
Dry peas	12.4	-	5,722	6,282
Beet	16.0	-	4,553	15,747
Other grains	463.0	-	-	-
Vegetables				
Tomato	-	10,513	2,400	3,700
Garlic	-	-	-	103.613
Sweet potatoes	32.4	19,839	-	53,329
Onions	33.6	-	4,969	28,631
Eggplant	39.6	-	-	39,600
Vegetable condiments	1.6	-	-	1,600
Cotton	491.1	-	81,559	409,441
Sesame	6.9	1,354	1,126	7,028
Sugar cane	1.9	-	-	1,900
Tobacco	6.6	-	402	6,198
Persian tobacco	0.3	-	-	300
Hemp	0.4	-	-	400

Industries	Unit	Production	Import	Export	Quantities of industrial products within the Region
Cement	Ton	314950.0	13482	10307	318025
Asphalt	"	20858.0	-	-	30858
Underwear		-	2533	1462	71
Rubber boots	Paris	108671.0	-	-	118671
Wollen clothes	M.	118671.0	-	-	118671
Biscuit	Ton	481.0	-	-	481
Tobacco	"	2847.0	101	-	2846
Tricot	Ton 1000				
Hosiery	Dozen				
Glass	Ton	6712.0	3083	-	3083
Vegetable oil) Olive oil) Vegetable butter)	Ton	-	3836	-	3831
Sugar	Ton	44598.0	45725	377	89946
Alcoholic liquids	Ton	3256.0	575	669	3162
Salt	Ton	33780 .0	-	-	33780
Chocolates	Ton	35.0	249	2	597
Wool yarns	Ton	322.0	4566	-	2888
Cotton yarns	Ton	12426.0	-	-	12426
Electric power	KW/1000	26214.0	-	-	26214
Sulphur	packet	785830.0	-	-	735830
Flax	Ton 1000	2.6	-	-	2600
Beet	"	61.0	2052	-	63052
Fruits					
Olive	Ton 1000	38.0	-	-	38000
Grapes	"	241.0	-	5906	235094
Apricot	"	24.0	-	-	24000
Apples	"	10.7	6266	-	16766
Plum	"	2.6	-	-	2600
Peach	"	3.0	2558	-	5558
Walnuts	"	4.5	-	167	4667
Pomegranates	"	4.6	-	-	4600
Almonds	"	2.5	-	-	2500
Figs	"	51.0	-	-	51000
Cherry	"	1.6	-	-	1600
Juince	"	0.9	-	-	900
Pistaccio	"	1.3	-	-	1300
Pear (Derra')	"	1.4	-	-	1400

	No. 1000	Import	Export	Nos. within Region
Cattle and Poultry				
Cows	304		53	274
Oxen	204			204
Horses	101			101
Donkeys	239			239
Fowl	2972		502	3474
Sheep	5466			5366
Goats	5466			5366
Buffalo	96			96
Bee-hives	67			67
Camels	79			79
Kids	44573			44573
Pigs	86			86
Livestock Products				
Milk	501	413		914
Butter	8716		1481	10197
Cheese	14867	229	1685	15096
Butter	856			856
Wool	7000	389	6504	885
Goat Hair	1514			1514
Honey	211			211
Silk cocoons	224			224
Eggs (in number)	146340		2422	143818